

## **TEST REPORT IEC 60335-2-40**

# Safety of household and similar electrical appliances Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers

Total number of pages.....: 123

United States

**Test specification:** 

Standard .....: IEC 60335-2-40:2013 (Fifth Edition) in conjunction with

IEC 60335-1:2010 (Fifth Edition)

Test procedure ...... Informative Report

Non-standard test method.....: N/A

Test Report Form No. ..... IEC60335\_2\_40K

Test Report Form(s) Originator ....: VDE

Master TRF...... Dated 2014-06

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#### General disclaimer:

The test results presented in this report relate only to the object tested.

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Report No. 4788482213

Test item description:		Package air conditioning series EMRHR and VMRHR		
Trac	le Mark:	Rheem	UUD	
Man	ufacturer:	RHEEM SALES CO INC 5600 Old Greenwood Rd Ft Smith, AR 72906 United States		
Model/Type reference:		•	er models series EMRHR and VMRHR. Iditional suffix letters and/or numbers for on variations.	
Rati	ngs:	See General Product I	nformation	
Tost	ing procedure and testing location:			
		T		
	CB Testing Laboratory:	UL LLC		
Test	ing location/ address	333 Pfingsten Rd		
		Northbrook, IL 60062		
		USA		
	Associated CB Testing Laboratory:			
Test	ing location/ address			
Test	ed by (name + signature)	Ryan Barnes	Rydn Barre	
App	roved by (name + signature)	Angelo Z. Sakellariou	Inffor	
	Testing procedure: TMP/CTF Stage 1:			
Test	ing location/ address			
Test	ed by (name + signature)			
App	roved by (name + signature)			
	Testing procedure: WMT/CTF Stage 2:	RHEEM SALES CO IN	IC	
Test	ing location/ address	5600 Old Greenwood Rd		
		Ft Smith, AR 72906		
		United States		
Test	ed by (name + signature)	Ryan Barnes	Rydn Barre	

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Report No. 4788482213

Witn	essed by (name + signature)	Ryan Barnes	Rydn Barrer
Approved by (name + signature)		Angelo Z. Sakellariou	Indflot
	Testing procedure: SMT/CTF Stage 3 or 4:		
Test	ing location/ address		
Test	ed by (name + signature)		
Witnessed by (name + signature)			
Approved by (name + signature)			
Supe	ervised by (name + signature)		

Report No. 4788482213

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

- 1. Certificates 6 pages
- 2. Photos 18 pages
- 3. Illustrations 30 pages
- 4. Test Data 133 pages
- 5. Certificates 79 pages

#### **Summary of testing:**

## Tests performed (name of test and test clause):

POWER INPUT AND CURRENT - 10.1, 10.2

HEATING – 11

LEAKAGE CURRENT (AT OPERATING TEMPERATURE) TEST - 13.2

ELECTRIC STRENGTH (AT OPERATING TEMPERATURE) TEST - 13.3

MOISTURE RESISTANCE (IPX) TEST - 15.3

LEAKAGE CURRENT (AFTER HUMIDITY) TEST - 16.2

ELECTRIC STRENGTH (AFTER HUMIDITY)
TEST - 16.3

ABNORMAL OPERATION (DISCONNECTED PHASE) TEST – 19.8

ABNORMAL OPERATION - RESTRICTED FLOW OF THE OUTDOOR HEAT EXCHANGER TEST – 19.101

ABNORMAL OPERATION – MINIMUM/MAXIMUM AIR TEMPERATURE TEST – 19.103

INSPECTION FOR CORROSION (FOLLOWING ABNORMAL OPERATION) TEST – 22.18

**CLEARANCE FORCE TEST - 29.1** 

CREEPAGE FORCE TEST - 29.2

#### **Testing location:**

**United States** 

RHEEM SALES CO INC 5600 Old Greenwood Rd Ft Smith, AR 72906

#### **Summary of compliance with National Differences:**

#### List of countries addressed

United Arab Emirates, Kingdom of Bahrain, Kingdom of Saudi Arabia, Sultanate of Oman, State of Qatar, State of Kuwait and Republic of Yemen

#### 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.

#### Model EMRHRX066ANT, also representative of all EMRHR series units





LISTED
CENTRAL COOLING
AIR CONDITIONED
7F62



#### Model VMRHRX066ANT, also representative of all VMRHR series units:



SEPARATE FOWER SUPPLY FOR BOTH UNIT AND REATER KIT SCRATCH INK OFF SQUARE OF HEATER KIT INSTALLED (ال الحجر عن مواج عنه الشعال المركبة المركب

HEATER KW HEATER KIT UNIT MIN. BATER KIT UNIT MIN. MAX. FUSE OR (@ 380/415V FLA CKT. CKT. BREAKER SIZE CKT. CKT. BREAKER SIZE المدال المد رقم موديل عدة السخال

DE NO HEATER SET INSTALLED

U. L. D. LES LAND, or D. L.

U. L. D. LES LAND, or D. L.

LINIT MIN, CKT. AMPACTTY/A for I for your load

المنافقي المنافق المن

MODEL.N م الموديل:	8 .	(III		RATTED CAPACITY (BTU/Hr): (btc): face: face:	E.E.R. 2, 14 14 14 14 14 14 14 14 14 14 14 14 14	
VMINISHANT	(Ti) 35-27/19	9,7	4660	63000	13.52	
	(120) 46-29/19	11	5720	57500	10.05	





LISTED CENTRAL COOLING AIR CONDITIONED 7F62



Report No. 4788482213

Classification of installation and use	Test item particulars::	Unit installed in end use test fixture representing enduse ambient conditions
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	Classification of installation and use:	Class I fixed appliance
Possible test case verdicts:  - test case does not apply to the test object	Supply Connection::	Permanent connection
- test case does not apply to the test object	:	
- test object does meet the requirement	Possible test case verdicts:	
test object does not meet the requirement: F (Fail)  Testing	- test case does not apply to the test object	N/A
Testing	- test object does meet the requirement	P (Pass)
Date of receipt of test item	- test object does not meet the requirement	F (Fail)
Date (s) of performance of tests	Testing	See above Summary of Testing
General remarks:  "(See Enclosure #)" refers to additional information appended to the report.  "(See appended table)" refers to a table appended to the report.  Throughout this report a ☐ comma / ☒ point is used as the decimal separator.  The Product fulfils the requirements of ☐ IEC 62233:2005 (1. Edition)  ☐ EN 62233:2008 (incl. Corr.1:2008)  Manufacturer's Declaration per sub-clause 4.2.5 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	Date of receipt of test item	2018-02-13
"(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.  The Product fulfils the requirements of IEC 62233:2005 (1. Edition)  EN 62233:2008 (incl. Corr.1:2008)  Manufacturer's Declaration per sub-clause 4.2.5 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	Date (s) of performance of tests	2018-02-13 to 2018-02-15
"(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.  The Product fulfils the requirements of IEC 62233:2005 (1. Edition)  EN 62233:2008 (incl. Corr.1:2008)  Manufacturer's Declaration per sub-clause 4.2.5 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		
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The Product fulfils the requirements of		
EN 62233:2008 (incl. Corr.1:2008)  Manufacturer's Declaration per sub-clause 4.2.5 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	Throughout this report a $\square$ comma / $\boxtimes$ point is u	used as the decimal separator.
Manufacturer's Declaration per sub-clause 4.2.5 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	The Product fulfils the requirements of $\ \square$ IEC 62	233:2005 (1. Edition)
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	☐ EN 62	233:2008 (incl. Corr.1:2008)
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  When differences exist; they shall be identified in the General product information section.  Name and address of factory (ies)	Manufacturer's Declaration per sub-clause 4.2.5 of	IECEE 02:
declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided  When differences exist; they shall be identified in the General product information section.  Name and address of factory (ies)		Yes
sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided		⊠ Not applicable
When differences exist; they shall be identified in the General product information section.  Name and address of factory (ies)	sample(s) submitted for evaluation is (are)	
When differences exist; they shall be identified in the General product information section.  Name and address of factory (ies)	representative of the products from each factory has been provided	
Name and address of factory (ies) : INDUSTRIAS RHEEM S A DE C V PARQUE INDUSTRIAL ORADEL AVE NEW YORK 207 CARR ANAHUAC KM 12.5 88285 NUEVO LAREDO TAMPS MEXICO	'	
AVE NEW YORK 207 CARR ANAHUAC KM 12.5 88285 NUEVO LAREDO TAMPS MEXICO		
AVE NEW YORK 207 CARR ANAHUAC KM 12.5 88285 NUEVO LAREDO TAMPS MEXICO	Name and address of factory (ies)	INDUSTRIAS RHEEM S A DE C V
CARR ANAHUAC KM 12.5 88285 NUEVO LAREDO TAMPS MEXICO		
TAMPS MEXICO		
Factory ID: W or Made in Mexico		
		Factory ID: W or Made in Mexico
RHEEM SALES CO INC		
FT SMITH AR 72906 Factory ID: F or Made in the USA		5600 OLD GREENWOOD RD

### General product information:

All applicable tests according to the referenced standards have been carried out in the course of this evaluation or referenced in the individual results.

Packaged air conditioner is for installation on commercial or residential premises with duct connections for conditioned air intake and discharge.

Model	Ratings (Volts/~/Hz)	Capacity (kBTU/hr)
E/VMRHRX120AVA#	380-400/3/60	120
E/VMRHRX096AVA#	380-400/3/60	96
E/VMRHRX072AVT#	380-400/3/60	72
E/VMRHRX066AVT#	380-400/3/60	66
E/VMRHRX060AVT#	380-400/3/60	60
E/VMRHRX120ANA#	380-415/3/50	120
E/VMRHRX102ANA#	380-415/3/50	102
E/VMRHRX078ANA#	380-415/3/50	78
E/VMRHRX066ANT#	380-415/3/50	66
E/VMRHRX054ANT#	380-415/3/50	54
E/VMRHRX042ANT#	380-415/3/50	42
Series EMRHR and VMRHR are identical except for ma	rked brand.	•

		IEC 60335-2-40		
Clause	Requirement + Test		Result - Remark	Verdict

5	GENERAL CONDITIONS FOR THE TESTS		Р
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		Р
5.2	Tests of clause 21 carried out on separate samples. Tests of clauses 11, 19 and 21 require pressure measurements made at various points in refrigerating system (IEC 60335-2-40)		Р
	At least one additional specially prepared sample required for tests of annex FF (Leak simulation tests) (IEC 60335-2-40)	FLAMMABLE REFRIGERANTS NOT USED	N/A
	Temperatures on refrigerant piping measured during test of clause 11 (IEC 60335-2-40)		Р
5.6	Appropriate controls rendered inoperative during test (IEC 60335-2-40)		Р
5.7	Tests of clauses 10 and 11 carried out under most severe operating conditions within operating temperature range specified by manufacturer. Annex AA provide examples of such temperature conditions (IEC 60335-2-40)		Р
5.10	For split-package units, refrigerant lines installed in accordance with installation instructions (IEC 60335-2-40)	Package unit	N/A
	Length of pipe is between 5 m and 7,5 m. (IEC 60335-2-40)	Package unit	N/A
	Thermal insulation of refrigerant lines applied in accordance with installation instructions (IEC 60335-2-40)	Package unit	N/A
5.101	Motor-compressor subjected to relevant test of clause 19 of IEC 60335-2-34, unless (IEC 60335-2-40)	Compressors are certified to IEC 60335-2-34	N/A
	motor-compressor comply with that standard (IEC 60335-2-40)	Compressors are certified to IEC 60335-2-34	Р
5.102	Motor-compressors tested and comply with IEC 60335-2-34 need not additionally tested for clause 21 (IEC 60335-2-40)	Compressors are certified to IEC 60335-2-34	Р
6	CLASSIFICATION		Р
6.1	Protection against electric shock: Class I, II, III (IEC 60335-2-40)	Class I	Р
6.2	Protection against harmful ingress of water, IP degree IEC 60529 (IEC 60335-2-40)	ee in accordance with	Р
	- appliances or parts intended for outdoor use be at least IPX4 (IEC 60335-2-40);	IPX4	Р

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
	- appliances intended only for indoor use (excluding laundry rooms) be IPX0 (IEC 60335-2-40);	IPX4	N/A
	- appliances intended to be used in laundry rooms be at least IPX1 (IEC 60335-2-40).	Rated IPX4	N/A
6.101	Degree of accessibility (accessible/not accessible to the general public) (IEC 60335-2-40)	accessible to general public	Р
7	MARKING AND INSTRUCTIONS	,	Р
7.1	Rated voltage or voltage range (V):	380-415V for EACB only 380-400V for EACD only	Р
	Symbol for nature of supply including number of phases, unless for single phase operation (IEC 60335-2-40)	To be marked "3~"	Р
	Rated frequency (Hz)	50 Hz for EACB only	Р
		60 Hz for EACD only	
	Rated power input (W), or	Rated in amperes	N/A
	Rated current (A)	Per individual unit ratings	Р
	Manufacturer's or responsible vendor's name, trademark or identification mark	Rheem, RUUD, or identified trademark.	Р
	Model or type reference:	See General Product Information	Р
	Symbol IEC 60417-5172, for class II appliances	Not class II appliance	N/A
	IP number, other than IPX0	To be marked IPX4	Р
	Symbol IEC 60417-5180, for class III appliances, unless	Not class III appliance	N/A
	the appliance is operated by batteries only	Not battery operated	N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage	No water connection	N/A
	Mass of refrigerant (IEC 60335-2-40)	Per rating plate	Р
	Refrigerant number in accordance with ANSI/ASHRAE 34 [ISO 817]	R410a	Р
	Refrigerant identification (IEC 60335-2-40)	R410a	Р
	Permissible excessive operating pressure for sanitary hot water heat pumps (IEC 60335-2-40).:	Not a sanitary hot water heat pump	N/A
	Maximum operating pressure for heat exchanger for hydronic fan coil/air handling units (IEC 60335-2-40)	No hydronic coils used	N/A

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum operating pressure for the refrigerant circuit; if the permissible excessive operating pressure for the suction and discharge side differ, a separate indication is required; (IEC 60335-2-40):	3792 kPa (550 PSIG)	Р
	Symbol for degree of protection against ingress of water, other than IPX0 (IEC 60335-2-40)	IPX4 to be marked	Р
	Separate marking of appliances with all rated characteristics of supplementary heaters (IEC 60335-2-40):	No supplementary heaters	N/A
	Marking of direction of fluid flow (IEC 60335-2-40)	No fluid connections	N/A
	Flame symbol and instruction manual symbol of 7.6 refrigerant employed and following conditions exist (		N/A
	<ul> <li>accessing parts expected to be subjected to maintenance or repair (IEC 60335-2-40);</li> </ul>	No flammable refrigerant used	N/A
	- observing appliance under sale or installed conditions (IEC 60335-2-40);	No flammable refrigerant used	N/A
	- observing appliance packaging, if appliance charged with refrigerant (IEC 60335-2-40).	No flammable refrigerant used	N/A
	If a flammable refrigerant is used, the symbols for "read operator's manual", "operator's manual; operating instructions" and "service indicator; read technical manual" (symbols ISO 7000-0790 (2004-01), ISO-7000-1641 (2004-01) and ISO 7000-1659 (2004-01)) shall be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height shall be at least 10 mm. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Additional warning symbol (flame symbol: W021 of ISO 7010) placed on nameplate of unit near declaration of refrigerant type and charge information. Perpendicular height be at least 10 mm, and symbol need not be in colour (IEC 60335-2-40)	No flammable refrigerant used	N/A
	When installed, the marking should be visible after removing a detachable part (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Following warning also applied to appliance when flammable refrigerant employed.	No flammable refrigerant used	N/A
	WARNING Appliance shall be installed, operated and stored in a room with a floor area larger than 'X' m² (only applies to appliances that are not fixed appliances)		
	(IEC 60335-2-40)		

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
	Not fixed appliances, minimum room size X specified on appliance. X in marking determined in m² by procedure described in Clause GG.2 for unventilated areas and X in marking be 4 if refrigerant charge of appliance is less than m₁ (see GG.1.1) (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Maximum allowable pressure for low-pressure side and high-pressure side marked on product (IEC 60335-2-40)	No flammable refrigerant used	N/A
	If not already visible when accessing service port and if service port provided, service port marked to identify type of refrigerant. If refrigerant is flammable, symbol B.3.2 of ISO 3864, be included, without specifying the colour (IEC 60335-2-40)	No flammable refrigerant used	N/A
7.2	Warning for stationary appliances for multiple supply	Units with separate supplies not part of current evaluation. Marking would be applicable when electric heater packages are applied	N/A
	Warning placed in vicinity of terminal cover	Units with separate supplies not part of current evaluation. Marking would be applicable when electric heater packages are applied	N/A
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	380-415V for EACB only 380-400V for EACD only	Р
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages, the voltage setting is clearly discernible	No voltage adjustor	N/A
	Requirement met if frequent changes are not required and the rated voltage to which the appliance is to be adjusted is determined from a wiring diagram	No voltage adjustor	N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless	Arithmetic mean	N/A
	the power input is related to the arithmetic mean value of the rated voltage range		Р
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used	3~	Р

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
	Flammable refrigerant, warning symbol W021 of ISO 7010, including colour and format, permanently placed on appliance. Perpendicular height of triangle containing "Caution, risk of fire"symbol be at least 30 mm (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Flammable refrigerant, symbol requiring reference to manual [ISO 7000-0790 (2004-01)], including colour and format, permanently placed on appliance (IEC 60335-2-40/A1 corr.1)	No flammable refrigerant used	N/A
	Symbol for nature of supply placed next to rated voltage	"3~" for 3 phase units	Р
	Symbol for class II appliances placed unlikely to be confused with other marking	Not class II appliance	N/A
	Units of physical quantities and their symbols according to international standardized system	"Maximum Design Outlet Temperature" to be additionally identified in degrees Celsius	Р
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless		Р
	correct mode of connection is obvious		N/A
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		
	- marking of terminals exclusively for the neutral conductor (letter N)	No neutral	N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		Р
	- marking not placed on removable parts		Р
7.9	Marking or placing of switches which may cause a hazard	No switches or external controls	N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means	No switches or external controls	N/A
	This applies also to switches which are part of a control	No switches or external controls	N/A
	If figures are used, the off position indicated by the figure 0	No switches or external controls	N/A
	The figure 0 indicates only OFF position, unless no confusion with the OFF position	No switches or external controls	N/A
7.11	Indication for direction of adjustment of controls	No switches or external controls	N/A
7.12	Instructions for safe use provided		Р

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
	Details concerning precautions during user maintenance		Р
	Appliances not accessible to general public, classification of clause 6.101 included (IEC 60335-2-40)	Not classified as "Not accessible to the General Public"	N/A
	Appliances using flammable refrigerants, an installation, service and operation manual, either separate or combined manuals, provided and include information given in annex DD (IEC 60335-2-40)	No flammable refrigerant used	N/A
	The instructions state that:		Р
	- the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction		P
	- children being supervised not to play with the appliance		Р
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided	No detachable power supply unit or class III construction	N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless	Not class III appliance	N/A
	it is a battery-operated appliance, the battery being charged outside the appliance	Not battery operated	N/A
7.12.1	Sufficient details for installation supplied		Р
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated	No water connections	N/A
	Sufficient details for installation or maintenance supp	blied (IEC 60335-2-40):	Р
	- that the appliance shall be installed in accordance with national wiring regulations (IEC 60335-2-40);		Р
	- the dimensions of the space necessary for correct installation of the appliance including the minimum permissible distance to adjacent structures (IEC 60335-2-40);		Р
	- for appliances with supplementary heaters, the minimum clearance from the appliance to combustible surfaces (IEC 60335-2-40);	No supplementary heaters	N/A
	- a wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord (IEC 60335-2-40);		Р

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- the range of external static pressures at which the appliance was tested (add-on heat pumps and appliances with supplementary heaters only) (IEC 60335-2-40);	No supplementary heaters and not add-on heat pump	N/A
	- the method of connection to the appliance to the electrical supply and interconnection of separate components (IEC 60335-2-40);		Р
	- indication of which parts of the appliance are suitable for outdoor use, if applicable (IEC 60335-2-40);	Package unit, ipx4 rating applies to whole unit	Р
	- details of type and rating of fuses , or rating of circuit breakers; (IEC 60335-2-40);		Р
	- details of supplementary heating elements that may be used in conjunction with the appliance, including fitting instructions either with the appliance or with the supplementary heater (IEC 60335-2-40);	No supplementary heaters	N/A
	- maximum and minimum water or brine operating temperatures (IEC 60335-2-40);	No water/brine used	N/A
	- maximum and minimum water or brine operating pressures (IEC 60335-2-40).	No water/brine used	N/A
	Open storage tanks of heat pumps for water heating, accompanied by an instruction sheet which state that the vent shall not be obstructed (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules		Р
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected	No parts in contact with field wiring that exceeds 50K during Heating Test	N/A
7.12.4	Instructions for built-in appliances:		N/A
	- dimensions of space	Not a built-in appliance	N/A
	- dimensions and position of supporting and fixing	Not a built-in appliance	N/A
	- minimum distances between parts and surrounding structure	Not a built-in appliance	N/A
	- minimum dimensions of ventilating openings and arrangement	Not a built-in appliance	N/A
	- connection to supply mains and interconnection of separate components	Not a built-in appliance	N/A

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless	Not a built-in appliance	N/A	
	a switch complying with 24.3	Not a built-in appliance	N/A	
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord	Permanently connected construction	N/A	
	Replacement cord instructions, type Y attachment	Permanently connected construction	N/A	
	Replacement cord instructions, type Z attachment	Permanently connected construction	N/A	
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard	No components of this type used	N/A	
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		Р	
7.12.8	Instructions for appliances connected to the water mains:		N/A	
	- max. inlet water pressure (Pa)	No water connection	N/A	
	- min. inlet water pressure, if necessary (Pa):	No water connection	N/A	
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets	No water connection	N/A	
7.13	Instructions and other texts in an official language	English instructions reviewed, instructions to be provided in end-use countries national language	Р	
7.14	Marking clearly legible and durable, rubbing test as specified	Represented by testing under reference project 4788008226	Р	
7.15	Markings on a main part		Р	
	Marking clearly discernible from the outside, if necessary after removal of a cover		Р	
	For portable appliances, cover can be removed or opened without a tool	Not a portable appliance	N/A	
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		Р	
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions	No switches or external controls	N/A	

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading	No switches or external controls	N/A
	Marking on panel allowed, provided panel in place for intended operation of appliance (IEC 60335-2-40)		Р
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link	No thermal links or fuses used	N/A
7.101	Marking of fuses and overload protective devices, if	replaceable (IEC 60335-2-40):	
	- fuse rated current in amperes, type and rated voltage or (IEC 60335-2-40)	No fuses/replaceable overload protection devices	N/A
	- manufacturer and model of overload protective device (IEC 60335-2-40)	No fuses/replaceable overload protection devices	N/A
7.102	Marking for connection with aluminium wire, if necessary (IEC 60335-2-40)	Not intended for aluminium field wiring	N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS	3	Р
8.1	Adequate protection against accidental contact with live parts		Р
8.1.1	Requirement applies for all positions, detachable parts removed		Р
	Lamps behind a detachable cover not removed, if conditions met	No lamps	N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap	No lamps	N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts	Represented by testing under reference project 4788008226	Р
	Use of test probe B of IEC 61032 through openings, with a force of 20 N: no contact with live parts	Represented by testing under reference project 4788008226	Р
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts	Represented by testing under reference project 4788008226	Р
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		N/A
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032, with a force not exceeding 1 N: no contact with live parts of visible glowing heating elements	No heating elements	N/A
8.1.4	Accessible part not considered live if:		Р

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	- safety extra-low a.c. voltage: peak value not exceeding 42,4 V	Per transformer certificate	Р	
	- safety extra-low d.c. voltage: not exceeding 42,4 V	No DC SELV circuit	N/A	
	- or separated from live parts by protective impedance	No protective impedance	N/A	
	If protective impedance: d.c. current not exceeding 2 mA, and	No protective impedance	N/A	
	a.c. peak value not exceeding 0,7 mA	No protective impedance	N/A	
	% - for peak values over 42,4 V up to and including 450 V, capacitance not exceeding 0,1 $\mu\text{F}$	No protective impedance	N/A	
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC	No protective impedance	N/A	
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ	No protective impedance	N/A	
8.1.5	Live parts protected at least by basic insulation before	re installation or assembly:	Р	
	- built-in appliances	Not built-in appliance	N/A	
	- fixed appliances		Р	
	- appliances delivered in separate units	Delivered whole	N/A	
	As regards the products which have a dedicated installation panel or cover and which cannot be installed without them, compliance is checked according to 5.10 (after the installation as instructed in the installation manual). (IEC 60335-2-40)		P	
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		Р	
	Only possible to touch parts separated from live parts by double or reinforced insulation		Р	
9	STARTING OF MOTOR-OPERATED APPLIANCES		N/A	
	Requirements and tests are specified in part 2 when necessary	Not specified in part 2	N/A	
10	POWER INPUT AND CURRENT		Р	
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.:	Appliance rated in amperes	N/A	
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless	Appliance rated in amperes	N/A	

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
	the rated power input is related to the arithmetic mean value	Appliance rated in amperes	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)	Р
	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		Р
11	HEATING		Р
11.1	No excessive temperatures in normal use (IEC 60335-2-40)		Р
	Compliance is checked by the tests of annex C, if (I	EC 60335-2-40):	Р
	- temperature of motor winding exceeds values shown in table 3 (IEC 60335-2-40)		Р
	- there is doubt about classification of insulation system of the motor (IEC 60335-2-40)		N/A
11.2	Placing and mounting of appliance (IEC 60335-2-40):		Р
	- clearances to adjacent surfaces (IEC 60335-2-40);	No declared clearances	N/A
	- flow rates for liquid source or sink equipment be minimum, except for fan coils where flow rates and liquid temperatures be maximum (IEC 60335-2-40);	No liquid sources	N/A
	- static pressures (IEC 60335-2-40);		Р
	- means of adjusting the flow, flow for tests be minimum obtainable (IEC 60335-2-40);	No flow adjustments	N/A
	- adjustable limit controls set at maximum cut-out setting and minimum differential (IEC 60335-2-40).	No adjustable limit controls	N/A
	Appliances with supplementary heaters, use test casing of clause 11.9 (IEC 60335-2-40)	No supplementary heaters	N/A
11.2.1	Appliances with supplementary heaters, inlet duct connected to inlet air opening (IEC 60335-2-40)	No supplementary heaters	N/A
	Appliance that includes or has provision for supplementary heater is fitted with a metal outlet duct in accordance with Figure 101a) or Figure 101b), depending on the direction of the airflow. (IEC 60335-2-40)	No supplementary heaters	N/A
11.2.2	Ducted appliance without supplementary heaters, air outlet used (IEC 60335-2-40)	No supplementary heaters	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
11.3	Temperature rise determine by thermocouples or resistance method (IEC 60335-2-40)		Р
11.4	Test performed at supply voltage between 0,94 and 1,06 times the rated voltage (IEC 60335-2-40)		Р
	Heating elements energized at voltage which gives an electrical input of 1,15 times maximum rated power input (IEC 60335-2-40)	No heaters	N/A
11.5	Test conducted in heating mode and cooling mode, if both exist (IEC 60335-2-40)	No heating mode	N/A
	All supplementary heating elements operative simultaneously (IEC 60335-2-40)	No heaters	N/A
11.6	Defrost test in most unfavourable conditions, if needed (IEC 60335-2-40)	No defrost mode	N/A
11.7	Appliances operated continuously until steady conditions except for defrost tests (IEC 60335-2-40)		Р
11.8	Temperatures not exceeding values of table 3 (IEC 60335-2-40)	(See appended tables)	Р
	Protective devices do not operate (IEC 60335-2-40)		Р
	Sealing compound not flowing out (IEC 60335-2-40)		Р
	Temperature of air in outlet duct not exceed 90 °C (IEC 60335-2-40)	No heating elements, temperature cannot exceed ambient	N/A
11.9	Test casing and installation of appliances in accordance with manufacturer's instructions (IEC 60335-2-40)	No declared clearances	N/A
	Glass fibre insulation for appliances without indication of minimum clearances according to manufacturer; thermocouple in contact with enclosure (IEC 60335-2-40)	Unit installed per intended outdoor use	N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH TEMPERATURE	AT OPERATING	Р
13.1	Leakage current not excessive and electric strength adequate		Р
	Heating appliances operated at 1,15 times the rated power input (W):	No heating elements	N/A
	Motor-operated appliances and combined appliances supplied at 1,06 times the rated voltage (V)	440V for EACB 424V for EACD	Р
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
13.2	For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990	Class I appliance	N/A	
	For other appliances, a low impedance ammeter may be used		Р	
	Leakage current measurements (IEC 60335-2-40)	(see appended table)	Р	
13.3	The appliance is disconnected from the supply		Р	
	Electric strength tests according to table 4	(see appended table)	Р	
	No breakdown during the tests		Р	
14	TRANSIENT OVERVOLTAGES		N/A	
	Appliances withstand the transient over-voltages to which they may be subjected	Sufficient clearances	N/A	
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6	Sufficient clearances	N/A	
	No flashover during the test, unless	Sufficient clearances	N/A	
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited	Sufficient clearances	N/A	
15	MOISTURE RESISTANCE		Р	
15.1	Enclosure provides degree of moisture protection against ingress of water (rain, overflow from drain pan or defrosting), tests of clause 15.2, 15.3, 11.6 and 16) (IEC 60335-2-40)		Р	
	Motor-compressor not operated and detachable parts removed during tests of clause 15.2 and 15.3 (IEC 60335-2-40)		Р	
15.2	Tests in accordance with IEC 60529 in appliances other than IPX0, as specified (IEC 60335-2-40):	IPX4	Р	
15.3	Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (IEC 60335-2-40)	Drain pan located lower than any live parts. Compliance evaluated per construction review	Р	
15.101	Spillage test as specified (IEC 60335-2-40)	Outdoor use only	N/A	
	After spillage completed, appliance withstand test of clause 16 (IEC 60335-2-40)	Outdoor use only	N/A	
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH	1	Р	
16.1	Leakage current not excessive and electric strength adequate		Р	
	Protective impedance disconnected from live parts before carrying out the tests	No protective impedance	N/A	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	Tests carried out at room temperature and not connected to the supply		Р	
16.2	Single-phase appliances: test voltage 1,06 times rated voltage (V)	3~	N/A	
	Three-phase appliances: test voltage 1,06 times rated voltage divided by √3 (V):	EACB: $415 * 1,06 / \sqrt{3} = 254V$ EACD: $400 * 1,06 / \sqrt{3} = 244V$	Р	
	Leakage current measurements	(see appended table)	Р	
	Limit values doubled if:		Р	
	- all controls have an off position in all poles, or	No switches or external controls	N/A	
	- the appliance has no control other than a thermal cut-out, or		Р	
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		Р	
	- the appliance has radio interference filters	No radio interference filter	N/A	
	With the radio interference filters disconnected, the leakage current do not exceed limits specified:	(see appended table)	N/A	
16.3	Electric strength tests according to table 7	(see appended table)	Р	
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified	(see appended table)	Р	
	No breakdown during the tests		Р	
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		N/A	
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use	Transformer certification considered representative of this test	N/A	
	Appliance supplied with 1,06 or 0,94 times rated voltage under the most unfavourable short-circuit or overload likely to occur in normal use (V)	Transformer certification considered representative of this test	N/A	
	Basic insulation is not short-circuited	Transformer certification considered representative of this test	N/A	
	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K	Transformer certification considered representative of this test	N/A	
	Temperature of the winding not exceeding the value specified in table 8	Transformer certification considered representative of this test	N/A	

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1	Transformer certification considered representative of this test	N/A
18	ENDURANCE		N/A
	Requirements and tests are specified in part 2 when necessary	Not applicable per IEC 60335-2-40.	N/A
19	ABNORMAL OPERATION		Р
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated.		Р
	Failure of transfer medium flow, or of any control device, does not result in a hazard (IEC 60335-2-40)		Р
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe (electric shock, fire or mechanical hazard, dangerous malfunction)		Р
	Appliances are subjected to the tests specified in 19.2 to 19.10, 19.101, 19.102 and 19.103, as applicable. (IEC 60335-2-40)		Р
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable	Component faults to be evaluated as part of the control circuit certification	N/A
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		Р
	Appliances incorporating voltage selector switches subjected to the test of 19.15	No voltage selector switch	N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		Р
	until steady conditions are established		Р
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample	No heating elements	N/A
19.2	Test of appliances with supplementary heaters (IEC 60335-2-40)	No supplementary heaters	N/A
19.3	Test at temperature permitting continuous operation of the motor-compressor and electric heating elements at same time (IEC 60335-2-40)	No heating elements	N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited	All operating controls short circuited during Clause 11 and not allowed to operate	N/A

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	Test of appliance with any defect which expected during normal use (IEC 60335-2-40)	All operating controls short circuited during Clause 11 and not allowed to operate	N/A	
19.5	Test of 19.4 repeated on class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath	No heating elements	N/A	
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath	No heating elements	N/A	
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4	No heating elements	N/A	
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions	No heating elements	N/A	
	The working voltage of the PTC heating element is increased by 5 % and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1,5 times working voltage or until the PTC heating element ruptures (V)	No heating elements	N/A	
19.7	Test of appliance with motor rotors, other than motor-compressors and stationary circulation pumps in compliance with IEC 60335-2-51, operated for 15 days (360 h) or until protection device opens circuit (IEC 60335-2-40)	Motors to be certified for IEC 60335-1	N/A	
	Insulation of motor windings (IEC 60335-2-40):	Motors to be certified for IEC 60335-1	N/A	
	Temperature of enclosure does not exceed (°C) (IEC 60335-2-40)	Motors to be certified for IEC 60335-1	N/A	
	Temperature of the windings does not exceed the values shown in the table 8; temperature (°C) (IEC 60335-2-40)	Motors to be certified for IEC 60335-1	N/A	
	Electric strength test as specified in 16.3, 72 h after the beginning of the test (IEC 60335-2-40)	Motors to be certified for IEC 60335-1	N/A	
	At the end, leakage current between windings and enclosure does not exceed 2 mA (IEC 60335-2-40)	Motors to be certified for IEC 60335-1	N/A	
	If the motor-compressor has not been type-tested against the requirements of IEC 60335-2-34, a sample is provided with the rotor locked and being filled with oil and refrigerant as intended. (IEC 60335-2-40)	Compressors to be certified to IEC 60335-2-34	N/A	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	Sample is subjected to the tests specified in 19.101, 19.102, 19.103 and 19.105 of IEC 60335-2-34:2012, if applicable, and complies with the requirements in 19.104 of IEC 60335-2-34:2012. (IEC 60335-2-40)	Compressors to be certified to IEC 60335-2-34	N/A	
19.8	Three phase motors other than motor compressors are operated under the conditions of Clause 11 at rated voltage or at the upper limit of the rated voltage range with one phase disconnected, until steady conditions are obtained or the protective device operates. (IEC 60335-2-40)	Fan motors are single phase, compressors are excluded from this requirement.	N/A	
19.10	Series motor operated at 1,3 times rated voltage for 1 min (V)	Series motors not used	N/A	
	During the test, parts not being ejected from the appliance	Series motors not used	N/A	
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless	No electronic circuit in construction	N/A	
	they comply with the conditions specified in 19.11.1	No electronic circuit in construction	N/A	
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless	No electronic circuit in construction	N/A	
	restarting does not result in a hazard	No electronic circuit in construction	N/A	
	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4	No electronic circuit in construction	N/A	
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out	No electronic circuit in construction	N/A	
	During and after each test the following is checked:		_	
	- the temperature of the windings do not exceed the values specified in table 8	No electronic circuit in construction	N/A	
	- the appliance complies with the conditions specified in 19.13	No electronic circuit in construction	N/A	
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4	No electronic circuit in construction	N/A	
	If a conductor of a printed board becomes open-circle considered to have withstood the particular test, proceedings are met:		_	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	- the base material of the printed circuit board withstands the test of annex E	No electronic circuit in construction	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	No electronic circuit in construction	N/A	
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to meeting both of the following conditions:	circuits or parts of circuits	_	
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified	No electronic circuit in construction	N/A	
	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction of other parts of the appliance does not rely on the correct functioning of the electronic circuit	No electronic circuit in construction	N/A	
19.11.2	Fault conditions applied one at a time, the appliance specified in clause 11, but supplied at rated voltage, specified:			
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29	No electronic circuit in construction	N/A	
	b) open circuit at the terminals of any component	No electronic circuit in construction	N/A	
	c) short circuit of capacitors, unless	No electronic circuit in construction	N/A	
	they comply with IEC 60384-14	No electronic circuit in construction	N/A	
	d) short circuit of any two terminals of an electronic component, other than integrated circuits	No electronic circuit in construction	N/A	
	This fault condition is not applied between the two circuits of an optocoupler	No electronic circuit in construction	N/A	
	e) failure of triacs in the diode mode	No electronic circuit in construction	N/A	
	f) failure of microprocessors and integrated circuits	No electronic circuit in construction	N/A	
	g) failure of an electronic power switching device	No electronic circuit in construction	N/A	
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made	No electronic circuit in construction	N/A	

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
19.11.3	If the appliance incorporates a protective electronic circuit which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to g) of 19.11.2	No electronic circuit in construction	N/A
19.11.4	The first paragraph of Part 1 in not applicable for stand-by mode if unintentional operation does not cause any hazards. (IEC 60335-2-40)	No electronic circuit in construction	N/A
	Appliances having a device with an off position obtained by electronic disconnection, or	No electronic circuit in construction	N/A
	a device that can be placed in the stand-by mode,	No electronic circuit in construction	N/A
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode.	No electronic circuit in construction	N/A
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to 19.11.4.7. (IEC 60335-2-40)	No electronic circuit in construction	N/A
	Tests are carried out after the protective electronic circuit has operated during the relevant tests of Clause 19 except 19.2, 19.6, 19.11.3, 19.102 and 19.103. (IEC 60335-2-40)	No electronic circuit in construction	N/A
	If the appliance incorporates more than one protective electronic circuit, each protective electronic circuit has to be tested individually with the appliance operated under normal operation at any temperature within the working range. (IEC 60335-2-40)	No electronic circuit in construction	N/A
	Components protected by a protective electronic, if engineering judgement gives evidence that the test in the final application will not lead to a hazardous condition. (IEC 60335-2-40)	No electronic circuit in construction	N/A
	Surge protective devices disconnected, unless	No electronic circuit in construction	N/A
	they incorporate spark gaps	No electronic circuit in construction	N/A
	For these tests, it may be necessary to provide specially prepared component samples, e.g. compressors with locked rotor. (IEC 60335-2-40)	No electronic circuit in construction	N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4	No electronic circuit in construction	N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3	No electronic circuit in construction	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified	No electronic circuit in construction	N/A
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified	No electronic circuit in construction	N/A
	Earthed heating elements in class I appliances disconnected	No electronic circuit in construction	N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3	No electronic circuit in construction	N/A
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the class 3 voltage dips and interruptions in accordance with IEC 61000-4-11	No electronic circuit in construction	N/A
	Appliances having a rated current exceeding 16 A are subjected to the class 3 voltage dips and interruptions in accordance with IEC 61000-4-34	No electronic circuit in construction	N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2	No electronic circuit in construction	N/A
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation at any temperature within the working range. After 60 s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate. (IEC 60335-2-40)	No electronic circuit in construction	N/A
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A)	No fuse link	N/A
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		Р
	Temperature rises not exceeding the values shown in table 9	(see appended table)	Р
	Compliance with clause 8 not impaired		Р
	If the appliance can still be operated it complies with 20.2		Р
	Insulation, other than of class III appliances or class contain live parts, withstands the electric strength te specified in table 4:		_
	- basic insulation (V)	1000 V	Р
	- supplementary insulation (V)	1750 V	Р

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- reinforced insulation (V)	3000 V	Р
	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		Р
	The appliance does not undergo a dangerous malfunction, and		Р
	no failure of protective electronic circuits, if the appliance is still operable		Р
	Appliances tested with an electronic switch in the off mode:	f position, or in the stand-by	_
	- do not become operational, or	Does not result in dangerous malfunction	N/A
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		Р
	If the appliance contains lids or doors that are control one of the interlocks may be released provided that:		_
	- the lid or door does not move automatically to an open position when the interlock is released, and	No interlocks	N/A
	- the appliance does not start after the cycle in which the interlock was released	No interlocks	N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being	Same contactor used to control compressor and condenser fan motors.	N/A
	short-circuited	No hazard associated with shorting of contactor for evaporator fan motors due to no heating mode	
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time	Same contactor used to control compressor and condenser fan motors.	N/A
		No hazard associated with shorting of contactor for evaporator fan motors due to no heating mode	
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited	Same contactor used to control compressor and condenser fan motors.	Р
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Locking in the "on" position of the main contacts of a contact intended for switching on and off the heating element(s) in normal use is considered to be a fault condition, unless the appliance is provided with at least two sets of contacts connected in series. (IEC 60335-2-40)	No heating elements	N/A
	This condition is, for example, achieved by providing two contactors operating independently of each other or by providing one contactor having two independent armatures operating two independent sets of main contacts.  (IEC 60335-2-40)	No heating elements	N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied	No mains voltage selector switch	N/A
19.101	Test of appliance with heat transfer medium flow of the outdoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)		Р
	Test of appliance with heat transfer flow of the indoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)	No hazard exists with restriction or blocking of indoor heat exchanger	N/A
	Disconnection of motor common to both the outdoor and the indoor heat exchangers when reaching steady conditions (IEC 60335-2-40)	No motor common to both the indoor and outdoor heat exchangers	N/A
19.102	Test of appliances using water as heat transfer medium (IEC 60335-2-40)	No water used as heat transfer medium	N/A
19.103	Test of air to air appliances at rated voltage or at the upper limit of the rated voltage range. Dry-bulb temperature is 5 K below values specified by manufacturer (IEC 60335-2-40)	No hazard associated with under-temperature condition.	N/A
	Test with the dry-bulb temperature 10 K over the values specified by manufacturer (IEC 60335-2-40)	Per previous evaluation 4786940987	Р
19.104	All appliances provided with supplementary heaters and free air discharge subjected to specified test in each mode of operation (IEC 60335-2-40)	No supplementary heaters	N/A
	During test temperature not exceed 150 °C but an overshoot of 25 °C is permitted during first hour (IEC 60335-2-40)	No supplementary heaters	N/A
	Thermal protective devices are allowed to operate. (IEC 60335-2-40)	No supplementary heaters	N/A
20	STABILITY AND MECHANICAL HAZARDS	1	Р
20.1	Appliances having adequate stability	Appliance is fixed	Р

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Tilting test through an angle of 10°, appliance placed on an inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn	Appliance is fixed	N/A
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°	No heating elements	N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9	Appliance is fixed	N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		Р
	Protective enclosures, guards and similar parts are non-detachable, and		Р
	have adequate mechanical strength		Р
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts	No interlock	N/A
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure		Р
	Not possible to touch dangerous moving parts with the test probe described	Represented by testing under reference project 4788008226	Р
21	MECHANICAL STRENGTH		Р
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling	Represented by testing under reference project 4786940990	Р
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	(see appended table)	Р
	The appliance shows no damage impairing compliance with this standard, and		Р
	compliance with 8.1, 15.1 and clause 29 not impaired		Р
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3		N/A
	If necessary, repetition of groups of three blows on a new sample		N/A
	Safety requirements specified in annex EE apply. Pressure test in annex EE applies to parts other than pressure vessels (IEC 60335-2-40)	Certification of components considered acceptable for end use	Р
	Safety requirements of ISO 14903 apply (IEC 60335-2-40)		Р

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements	No accessible parts of solid insulation	N/A
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm	No accessible parts of solid insulation	N/A
	The insulation is tested as specified, and does withstand the electric strength test of 16.3	No accessible parts of solid insulation	N/A
	Appliances using flammable refrigerants withstand the effects of vibration during transport. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Appliance is tested in its final packaging for transport and shall withstand a random vibration test according to ASTM D4728-01. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Compliance is checked as specified (IEC 60335-2-40)	No flammable refrigerant used	N/A
22	CONSTRUCTION		Р
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	No first numeral IP rating applied	N/A
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		Р
	- a supply cord fitted with a plug, or	No cord/plug	N/A
	- a switch complying with 24.3, or	Statement in instruction used	N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		Р
	- an appliance inlet	No appliance inlet	N/A
	Singe-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 01 and class I appliances, connected to the phase conductor	No heating elements	N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets	Pins not provided	N/A
	Applied torque not exceeding 0,25 Nm	Pins not provided	N/A
	Pull force of 50 N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1 mm	Pins not provided	N/A
	Each pin subjected to a torque of 0,4 Nm; the pins are not rotating, unless	Pins not provided	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	rotating does not impair compliance with this standard	Pins not provided	N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets	No pins for insertion	Р
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance exceeding 0,1 $\mu$ F, the appliance being disconnected from the supply at the instant of voltage peak	No plug, permanently connected units	N/A
	Voltage not exceeding 34 V (V)	No plug, permanently connected units	N/A
22.6	Electrical insulation not affected by condensing water or leaking liquid		Р
	Electrical insulation of class II appliances not affected if a hose ruptures or seal leaks		Р
	In case of doubt, test as described		N/A
	Electrical insulation not affected by snow penetration to appliance enclosure (IEC 60335-2-40)	Drain holes provided	Р
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices	Per pressure rating of components in Annex EE	Р
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use	No compartments accessible without use of tool	N/A
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless		Р
	the substance has adequate insulating properties		Р
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:	No voltage maintained non- self-resetting thermal cut-outs	N/A
	- a non-self-resetting thermal cut-out is required by the standard, and	No voltage maintained non- self-resetting thermal cut-outs	N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it	No voltage maintained non- self-resetting thermal cut-outs	N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless	No non-self resetting thermal motor protectors	N/A
	they are voltage maintained	No non-self resetting thermal motor protectors	N/A

	IEC 60335-2-40	<del>,</del>	
Clause	Requirement + Test	Result - Remark	Verdict
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		Р
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		Р
	Obvious locked position of snap-in devices used for fixing such parts	No snap-in devices	N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing	No snap-in devices	N/A
	Tests as described	Per reference project 4786940990	Р
22.12	Handles, knobs etc. fixed in a reliable manner	No handles, knobs, or similar parts	N/A
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible	No handles, knobs, or similar parts	N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied	No handles, knobs, or similar parts	N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied	No handles, knobs, or similar parts	N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only	No handles, knobs, or similar parts	N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance	Bushing to be added to compressor/condenser fan motor wiring out of electrical compartment	Р
	No exposed pointed ends of self-tapping screws or other fasteners, likely to be touched by the user in normal use or during user maintenance		Р
22.15	Storage hooks and the like for flexible cords smooth and well rounded	No cords	N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts	No cords	N/A
	Cord reel tested with 6000 operations, as specified	No cords	N/A
	Electric strength test of 16.3, voltage of 1000 V applied	No cords	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner	No spacers	N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion		Р
22.19	Driving belts not relied upon to provide the required level of insulation, unless		Р
	constructed to prevent inappropriate replacement	No driving belts relied upon for insulation	N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		Р
	material used is non-corrosive, non-hygroscopic and non-combustible	No contact between live parts and thermal insulation	N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	Noted materials not used	N/A
	impregnated	Noted materials not used	N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements	No heating elements	N/A
22.22	Appliances not containing asbestos		Р
22.23	Oils containing polychlorinated biphenyl (PCB) not used		Р
22.24	Bare heating elements adequately supported to prevent contact with accessible metal parts nor give rise to a hazard in case of rupture or sagging (IEC 60335-2-40)	No heating elements	N/A
	Bare heating elements not used with wood or wood composite enclosures. (IEC 60335-2-40)	No heating elements	N/A
22.25	Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts	No heating elements	N/A
22.26	For class III constructions the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation	No class III construction	N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation	No protective impedance	N/A
22.28	Metal parts of class II appliances conductively connected to gas pipes or in contact with water, separated from live parts by double or reinforced insulation	Class I appliance	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.29	Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation	Class I appliance	N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or	Only solid part functioning as reinforced insulation is class 2 transformer, which is fixed to control compartment with screws	Р
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		Р
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		Р
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		Р
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29		Р
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2	Rubber not used for insulation	N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation	Ceramic not used for insulation	N/A
	Insulating material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation	No heating conductors	N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature	Rubber not used for insulation	N/A
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts		Р
	Electrodes not used for heating liquids	No liquid heating function	N/A
	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, unless	No conductive liquids in class II construction. Class 2 transformer located within control compartment and is not subject to condensation.	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	the reinforced insulation consists of at least 3 layers	No conductive liquids in class II construction. Class 2 transformer located within control compartment and is not subject to condensation.	N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless	No conductive liquids in class II construction. Class 2 transformer located within control compartment and is not subject to condensation.	N/A
	the reinforced insulation consists of at least 3 layers	No conductive liquids in class II construction. Class 2 transformer located within control compartment and is not subject to condensation.	N/A
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless	No operating knobs, levers, handles, or similar	N/A
	the shaft is not accessible when the part is removed	No operating knobs, levers, handles, or similar	N/A
22.35	For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation	No operating knobs, levers, handles, or similar	N/A
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulation	No operating knobs, levers, handles, or similar	N/A
	This requirement does not apply to handles, levers and knobs on stationary appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal	No operating knobs, levers, handles, or similar	N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation	No operating knobs, levers, handles, or similar	N/A
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless	No handles continuously held in hand in normal use	N/A

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	they are separated from live parts by double or reinforced insulation	No handles continuously held in hand in normal use	N/A	
22.37	Capacitors in class II appliances not connected to accessible metal parts and their casings, if of metal, separated from accessible metal parts by supplementary insulation, unless	Class I appliance	N/A	
	the capacitors comply with 22.42	Class I appliance	N/A	
22.38	Capacitors not connected between the contacts of a thermal cut-out		Р	
22.39	Lamp holders used only for the connection of lamps	No lamp holders	N/A	
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible	Fixed appliance	N/A	
	If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible	Fixed appliance	N/A	
22.41	No components, other than lamps, containing mercury		Р	
22.42	Protective impedance consisting of at least two separate components	No protective impedance	N/A	
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited	No protective impedance	N/A	
	Resistors checked by the test of 14.1 a) in IEC 60065	No protective impedance	N/A	
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14	No protective impedance	N/A	
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur	No voltage adjustment means	N/A	
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		Р	
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure		Р	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1	No programmable protective controls	N/A	
	If the protective electronic circuit software is a part of the normal operation control, inspection of software shall be limited to relevant source code of safety controls or related software controls. (IEC 60335-2-40)	No programmable protective controls	N/A	
	Alternative methods are used (IEC 60335-2-40)	No programmable protective controls	N/A	
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards	No programmable protective controls	N/A	
	These requirements are not applicable to software used for functional purpose or compliance with clause 11	No programmable protective controls	N/A	
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use	No water mains connection	N/A	
	No leakage from any part, including any inlet water hose	No water mains connection	N/A	
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water	No water mains connection	N/A	
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless	Appliance can be operated continuously without hazard	N/A	
	the appliance switches off automatically or can operate continuously without hazard	Appliance can be operated continuously without hazard	Р	
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		Р	
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode	Appliance can be operated continuously without hazard	N/A	
	There is a visual indication showing that the appliance is adjusted for remote operation	Appliance can be operated continuously without hazard	N/A	
	These requirements not necessary on appliances th without giving rise to a hazard:	at can operate as follows,	Р	
	- continuously, or		Р	
	- automatically, or	Appliance can be operated continuously without hazard	N/A	
	- remotely	Appliance can be operated continuously without hazard	N/A	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold	No socket-outlets	N/A	
22.101	Appliances intended to be fixed, securely fixed (IEC 60335-2-40)		Р	
22.102.1	At least two thermal cut-outs in appliances with supplementary heating elements for air (first one be self-resetting and other non-self-resetting thermal cut-out) (IEC 60335-2-40)	No supplementary heaters	N/A	
22.102.2	Appliances provided with supplementary heaters for water incorporate non-self-resetting thermal cut-out, providing all-pole disconnection that operates separately from water thermostats (IEC 60335-2-40)	No supplementary heaters	N/A	
	However, for appliances intended to be connected to fixed wiring, the neutral conductor need not be disconnected (IEC 60335-2-40)	No supplementary heaters	N/A	
22.102.3	Thermal cut-outs of capillary type open in event of leakage from capillary tube (IEC 60335-2-40)	No capillary type thermal cut- outs	N/A	
22.103	Non-self-resetting cut-outs independent of other control devices (IEC 60335-2-40)		Р	
22.104	Containers of sanitary hot water heat pumps withstand twice permissible operating pressure in closed containers (IEC 60335-2-40) or	Not a sanitary hot water heat pump	N/A	
	0,15 MPa in open containers (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	
	without leakage or rupture (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	
22.105	Air or vapour cushion in closed containers not exceeding 10 % (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	
22.106	Pressure relief devices operating at 0,1 MPa over permissible operating pressure (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	
22.107	Water outlet systems of open containers free from obstruction causing over-pressure (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	
	Vented containers of sanitary hot water heat pumps always open to the atmosphere through appropriate aperture (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	
22.108	Not vented open containers subjected to test in accordance with clause 22.104 to vacuum of 33 kPa for 15 min (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	
	Container show no deformation which result in a hazard (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
22.109	Replacement of non-self-resetting thermal cut-outs does not damage other connections (IEC 60335-2-40)	No replaceable non-self-resetting thermal cut-outs	N/A	
22.110	Non-self-resetting thermal cut-outs operate without short-circuiting live parts of different potential and without causing contact between live parts and enclosure (IEC 60335-2-40)	Only non-self-resetting thermal cut-out integral to transformer, compliance based on component certificate	Р	
	Test repeated five times without blowing 3 A fuse which connects appliance to earth (IEC 60335-2-40)	Only non-self-resetting thermal cut-out integral to transformer, compliance based on component certificate	Р	
	Electric strength test as specified in clause 16.3 for supplementary heating elements (IEC 60335-2-40)	No heating elements	N/A	
22.111	Manual resetting of thermostats not necessary after power supply interruption (IEC 60335-2-40)		Р	
22.112	Construction of refrigerating system comply with requirements of Section 3 of ISO 5149 (IEC 60335-2-40)		Р	
22.113	Flammable refrigerant used, refrigerant tubing protected or enclosed to avoid mechanical damage (IEC 60335-2-40)	No flammable refrigerant used	N/A	
	Tubing protected to extent that it will not be handled or used for carrying during moving of product (IEC 60335-2-40)	No flammable refrigerant used	N/A	
	Tubing located within confines of cabinet considered to be protected from mechanical damage (IEC 60335-2-40)	No flammable refrigerant used	N/A	
22.114	Flammable refrigerant used, low temperature solder alloys, such as lead/tin alloys, not acceptable for pipe connections or any other refrigerant pressure containing purposes. (IEC 60335-2-40)	No flammable refrigerant used	N/A	
22.115	Total refrigerant mass (M) of all refrigerating systems within appliance employing flammable refrigerants, not exceed m <sub>3</sub> defined in annex GG (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A	
22.116	Appliances using flammable refrigerants constructed that any leaked refrigerant not flow or stagnate so as to cause fire or explosion hazard in areas within appliance where electrical components, which could be a source of ignition and which could function under normal conditions or in event of leak, fitted (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A	

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
	Separate components, such as thermostats, which charged with less than 0,5 g of flammable gas not considered to cause fire or explosion hazard in event of leakage of gas within component itself (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A
	All electrical components that could be a source of igunder normal conditions or in the event of a leak, sha which satisfies the following: (IEC 60335-2-40):	gnition and which could function all be located in an enclosure	N/A
	- comply with Clause 20 of IEC 60079-15:2010 for restricted breathing enclosures suitable for use with group IIA gases or the refrigerant used. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	- not be located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of Annex FF. Electrical components not located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of Annex FF are not considered an ignition source. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Components and apparatus complying with Clause 8 to 19 of IEC 60079-15:2010, for group IIA gases or the refrigerant used or an applicable standard that makes electrical components suitable for use in Zone 2, 1 or 0 as defined IEC 60079-14 are not considered as a source of ignition. (IEC 60335-2-40)	No flammable refrigerant used	N/A
22.117	Temperatures on surfaces that exposed to leakage of flammable refrigerants not exceed auto-ignition temperature of refrigerant reduced by 100 K; some typical values given in annex BB (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A
22.118	Flammable refrigerant used, all appliances charged with refrigerant at manufacturing location or charged on site as recommended by manufacturer (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A
	Part of appliance that charged on site, which require installation not shipped with flammable refrigerant chinstallation between parts of refrigerating system, with made in accordance with following (IEC 60335-2-40/	narge. Joints made in the thick that least one part charged,	N/A
	- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. A vacuum valve shall be provided to evacuate the interconnecting pipe and/or any uncharged refrigerating system part (IEC 60335-2-40)	No flammable refrigerant used	N/A

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	- Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated. (IEC 60335-2-40)	No flammable refrigerant used	N/A	
	- Refrigerant tubing shall be protected or enclosed to avoid damage (IEC 60335-2-40)	No flammable refrigerant used	N/A	
	Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operations shall be protected against mechanical damage (IEC 60335-2-40)	No flammable refrigerant used	N/A	
23	INTERNAL WIRING		Р	
23.1	Wireways smooth and free from sharp edges		Р	
	Wires protected against contact with burrs, cooling fins etc.		Р	
	Wire holes in metal well-rounded or provided with bushings		Р	
	Wiring effectively prevented from coming into contact with moving parts		Р	
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges	Beads, or similar spacers, are not used	N/A	
	Beads inside flexible metal conduits contained within an insulating sleeve	Beads, or similar spacers, are not used	N/A	
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress	No conductors flexed during normal use or maintenance	N/A	
	Flexible metallic tubes not causing damage to insulation of conductors	No flexible metal tubing used	N/A	
	Open-coil springs not used		Р	
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another	No springs	N/A	
	No damage after 10 000 flexings for conductors flexed during normal use, or	No conductors flexed in normal use	N/A	
	100 flexings for conductors flexed during user maintenance	No conductors flexed during maintenance	N/A	
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts	No conductors flexed during normal use or maintenance	N/A	
	Not more than 10 % of the strands of any conductor broken, and	No conductors flexed during normal use or maintenance	N/A	
	not more than 30 % for wiring supplying circuits that consume no more than 15 W	No conductors flexed during normal use or maintenance	N/A	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
23.4	Bare internal wiring sufficiently rigid and fixed	No bare internal wiring	N/A	
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use		Р	
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or	Internal wiring not certified to IEC 60227 or IEC 60245	N/A	
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation	Represented by testing under reference project 4788008226	Р	
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or	No sleeving used as supplementary insulation	N/A	
	be such that it can only be removed by breaking or cutting	No sleeving used as supplementary insulation	N/A	
23.7	The colour combination green/yellow only used for earthing conductors		Р	
23.8	Aluminium wires not used for internal wiring		Р	
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless		Р	
	the contact pressure is provided by spring terminals	Soldering not used to consolidate conductors	N/A	
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)	No water mains connection	N/A	
24	COMPONENTS	,	Р	
24.1	Components comply with safety requirements in relevant IEC standards		Р	
	List of components	(see appended table)	Р	
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		N/A	
	For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9		Р	

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Clause	Requirement + Test	Result - Remark	Verdict
	Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance		Р
	Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard	No lampholders / starterholders	N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC 60309	No plugs/couplers used	N/A
	Motor-compressors not tested according to IEC 60335-2-34 (not necessary to meet all requirements of IEC 60335-2-34) (IEC 60335-2-40)	Compressors certified to IEC 60335-2-34	N/A
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14	No capacitors used for radio interference suppression or voltage dividing	N/A
	If the capacitors have to be tested, they are tested according to annex F	No capacitors used for radio interference suppression or voltage dividing	N/A
24.1.2	Safety isolating transformers complying with IEC 61558-2-6	Transformer certificate considered equivalent	Р
	If they have to be tested, they are tested according to annex G		N/A
24.1.3	Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000	Per component certificate	Р
	If they have to be tested, they are tested according to annex H		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		N/A
	If the switch only operates a motor staring relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		N/A
24.1.4	Automatic controls complying with IEC 60730-1 with number of cycles of operation being at least:	the relevant part 2. The	Р
	- thermostats:	All thermostats shorted during testing	N/A
	- temperature limiters: 1 000	This component type not used	N/A
	- self-resetting thermal cut-outs:		Р

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- voltage maintained non-self-resetting thermal cut- outs:	This component type not used	N/A
	- other non-self-resetting thermal cut-outs: 30	Per component certificate	Р
	- timers:	This component type not used	N/A
	- energy regulators: 10 000	This component type not used	N/A
	- thermostats which control motor-compressor (IEC 60335-2-40): 100 000	Thermostats shorted during testing.	N/A
	- motor-compressor starting relays (IEC 60335-2-40): 100 000		N/A
	- automatic thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (not less than number of operations during locked rotor test) (IEC 60335-2-40):min 2000	Per component compressor certification	Р
	- manual reset thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC/EN 60335-2-40): 50	This component type not used	N/A
	- other automatic thermal motor-protectors (IEC 60335-2-40): 2000	Component motors to be certified to IEC/EN 60335-1	Р
	- other manual reset thermal motor-protectors (IEC 60335-2-40):	This component type not used	N/A
	The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited	Thermostats shorted during testing	Р
	Thermal motor protectors are tested in combination with their motor under the conditions specified in annex D		N/A
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7	This component type not used	N/A
24.1.5	Appliance couplers complying with IEC 60320-1	Appliance Couplers not used	N/A
	However, for appliances classified higher than IPX0, the appliance couplers complying with IEC 60320-2-3	Appliance Couplers not used	N/A
	Interconnection couplers complying with IEC 60320-2-2	Appliance Couplers not used	N/A
24.1.6	Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable	No lamp holders	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151	No remote operation via telecommunication network	N/A
24.1.8	The relevant standard for thermal links is IEC 60691	No thermal links	N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of clause 19	No thermal links	N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		Р
	They are also tested in accordance with clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance	Component certificates considered representative	Р
24.2	Appliances not fitted with:		Р
	- switches or automatic controls in flexible cords		Р
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		Р
	- thermal cut-outs that can be reset by soldering, unless		Р
	the solder has a melding point of at least 230 °C	No thermal cut-out that can be reset by soldering	N/A
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions		Р
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1	No plugs/socket-outlets used	N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly		N/A
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load	No capacitors in series with motor winding	N/A

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Clause	Requirement + Test	Result - Remark	Verdict	
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V	Insulation adequate	N/A	
	In addition, the motors comply with the requirements of annex I	Insulation adequate	N/A	
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770	No water mains connection	N/A	
	They are supplied with the appliance	No water mains connection	N/A	
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set	No water mains connection	N/A	
24.8	Motor running capacitors in appliances for which 30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure		Р	
	One or more of the following conditions are to be me	et:	N/A	
	- the capacitors are of class P2 according to IEC 60252-1		N/A	
	- the capacitors are housed within a metallic or ceramic enclosure		Р	
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm		Р	
	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of annex E		N/A	
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10		N/A	
24.101	Replaceable parts of thermal control devices identified by marking (IEC 60335-2-40)	No replaceable parts of thermal control devices	N/A	
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE	E CORDS	Р	
25.1	Appliance not intended for permanent connection to connection to the supply:	fixed wiring, means for	N/A	
	- supply cord fitted with a plug,	Appliance intended for permanent connection by conduit	N/A	
	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or	Appliance intended for permanent connection by conduit	N/A	
	- pins for insertion into socket-outlets	Appliance intended for permanent connection by conduit	N/A	

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Clause	Requirement + Test	Result - Remark	Verdict
	Supply cord fitted with plug provided, if (IEC 60335-2	2-40):	N/A
	- appliance only for indoor use (IEC 60335-2-40),	Appliance intended for permanent connection by conduit	N/A
	- marked with rating of 25 A or less and (IEC 60335-2-40)	Appliance intended for permanent connection by conduit	N/A
	- complies with code requirements of country where it will be used (IEC 60335-2-40).	Appliance intended for permanent connection by conduit	N/A
	Appliance inlet not allowed (IEC 60335-2-40)	Appliance intended for permanent connection by conduit	N/A
25.2	Appliance not provided with more than one means of connection to the supply mains		Р
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown	Single supply	N/A
25.3	Appliance intended to be permanently connected to fixed wiring provided with one of the following means for connection to the supply mains:		Ρ
	- a set of terminals allowing the connection of a flexible cord	Not for connection by supply cord	N/A
	- a fitted supply cord	No supply cord	N/A
	- a set of supply leads accommodated in a suitable compartment	Supply leads only used for low voltage connections in separate low voltage field wiring compartment	Р
	- a set of terminals for the connection of cables of fixed wiring, cross-sectional areas specified in 26.6, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support	Conduit connection	N/A
	- a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate types of cable or conduit, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support	Contactor terminals used for supply mains connection	Р
	For a fixed appliance constructed so that parts can be removed to facilitate easy installation, this requirement is met if it is possible to connect the fixed wiring without difficulty after a part of the appliance has been fixed to its support		Р

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Clause	Requirement + Test	Result - Remark	Verdict	
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm)	All units exceed 16A	N/A	
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29		N/A	
25.5	Method for assembling the supply cord to the applian	nce:	N/A	
	- type X attachment	Appliance intended for permanent connection by conduit	N/A	
	- type Y attachment	Appliance intended for permanent connection by conduit	N/A	
	- type Z attachment, if allowed in relevant part 2	Appliance intended for permanent connection by conduit	N/A	
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords	Appliance intended for permanent connection by conduit	N/A	
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment	Appliance intended for permanent connection by conduit	N/A	
25.6	Plugs fitted with only one flexible cord	Appliance intended for permanent connection by conduit	N/A	
25.7	Supply cords, other than for class III appliances, being one of the following types:		N/A	
	- rubber sheathed (at least 60245 IEC 53)	Appliance intended for permanent connection by conduit	N/A	
	- polychloroprene sheathed (at least 60245 IEC 57)	Appliance intended for permanent connection by conduit	N/A	
	- cross-linked polyvinyl chloride sheathed (at least 60245 IEC 88)	Appliance intended for permanent connection by conduit	N/A	
	- polyvinyl chloride sheathed. Not used if they are lik a temperature rise exceeding 75 K during the test of		N/A	
	- light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg	Appliance intended for permanent connection by conduit	N/A	
	- ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances	Appliance intended for permanent connection by conduit	N/A	

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Clause	Requirement + Test	Result - Remark	Verdict
	- heat resistant polyvinyl chloride sheathed. Not used than specially prepared cords	d for type X attachment other	N/A
	<ul> <li>heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg</li> </ul>	Appliance intended for permanent connection by conduit	N/A
	- heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances	Appliance intended for permanent connection by conduit	N/A
	Supply cords for class III appliances adequately insulated	Appliance intended for permanent connection by conduit	N/A
	Test with 500 V for 2 min for supply cords of class III appliances that contain live parts	Appliance intended for permanent connection by conduit	N/A
	Supply cords for outdoor use not lighter than polychloroprene sheathed flexible cord (60245 IEC 57) (IEC 60335-2-40)	Appliance intended for permanent connection by conduit	N/A
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm²):	Appliance intended for permanent connection by conduit	N/A
25.9	Supply cords not in contact with sharp points or edges	Appliance intended for permanent connection by conduit	N/A
25.10	Supply cord of class I appliances have a green/yellow core for earthing	Appliance intended for permanent connection by conduit	N/A
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless	Appliance intended for permanent connection by conduit	N/A
	the contact pressure is provided by spring terminals	Appliance intended for permanent connection by conduit	N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure	Appliance intended for permanent connection by conduit	N/A
25.13	Inlet openings so constructed as to prevent damage to the supply cord	Appliance intended for permanent connection by conduit	N/A
	If the enclosure at the inlet opening is not of insulating material, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided	Appliance intended for permanent connection by conduit	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is	Appliance intended for permanent connection by conduit	N/A
	class 0, or	Appliance intended for permanent connection by conduit	N/A
	a class III appliance not containing live parts	Appliance intended for permanent connection by conduit	N/A
25.14	Supply cords moved while in operation adequately protected against excessive flexing	Appliance intended for permanent connection by conduit	N/A
	Flexing test, as described:		N/A
	- applied force (N)	Appliance intended for permanent connection by conduit	N/A
	- number of flexings	Appliance intended for permanent connection by conduit	N/A
	The test does not result in:		N/A
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current	Appliance intended for permanent connection by conduit	N/A
	- breakage of more than 10 % of the strands of any conductor	Appliance intended for permanent connection by conduit	N/A
	- separation of the conductor from its terminal	Appliance intended for permanent connection by conduit	N/A
	- loosening of any cord guard	Appliance intended for permanent connection by conduit	N/A
	- damage to the cord or the cord guard	Appliance intended for permanent connection by conduit	N/A
	- broken strands piercing the insulation and becoming accessible	Appliance intended for permanent connection by conduit	N/A
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage	Appliance intended for permanent connection by conduit	N/A

	IEC 60335-2-40	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict		
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged	Appliance intended for permanent connection by conduit	N/A		
	Pull and torque test of supply cord, values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)	Appliance intended for permanent connection by conduit	N/A		
	Cord not damaged and max. 2 mm displacement of the cord	Appliance intended for permanent connection by conduit	N/A		
25.16	Cord anchorages for type X attachments constructed	d and located so that:	N/A		
	- replacement of the cord is easily possible	Appliance intended for permanent connection by conduit	N/A		
	- it is clear how the relief from strain and the prevention of twisting are obtained	Appliance intended for permanent connection by conduit	N/A		
	- they are suitable for different types of supply cord	Appliance intended for permanent connection by conduit	N/A		
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless	Appliance intended for permanent connection by conduit	N/A		
	they are separated from accessible metal parts by supplementary insulation	Appliance intended for permanent connection by conduit	N/A		
	- the cord is not clamped by a metal screw which bears directly on the cord	Appliance intended for permanent connection by conduit	N/A		
	- at least one part of the cord anchorage securely fixed to the appliance, unless	Appliance intended for permanent connection by conduit	N/A		
	it is part of a specially prepared cord	Appliance intended for permanent connection by conduit	N/A		
	- screws which have to be operated when replacing the cord do not fix any other component, unless	Appliance intended for permanent connection by conduit	N/A		
	the appliance becomes inoperative or incomplete or the parts cannot be removed without a tool	Appliance intended for permanent connection by conduit	N/A		
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood	Appliance intended for permanent connection by conduit	N/A		

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Clause	Requirement + Test	Result - Remark	Verdict
	- for class 0, 0I and I appliances they are of insulating material or are provided with an insulating lining, unless	Appliance intended for permanent connection by conduit	N/A
	failure of the insulation of the cord does not make accessible metal parts live	Appliance intended for permanent connection by conduit	N/A
	- for class II appliances they are of insulating material, or	Appliance intended for permanent connection by conduit	N/A
	if of metal, they are insulated from accessible metal parts by supplementary insulation	Appliance intended for permanent connection by conduit	N/A
	After the test of 25.15, under the conditions specified, the conductors have not moved by more than 1 mm in the terminals	Appliance intended for permanent connection by conduit	N/A
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance	Appliance intended for permanent connection by conduit	N/A
25.18	Cord anchorages only accessible with the aid of a tool, or	Appliance intended for permanent connection by conduit	N/A
	Constructed so that the cord can only be fitted with the aid of a tool	Appliance intended for permanent connection by conduit	N/A
25.19	Type X attachment, glands not used as cord anchorage in portable appliances	Appliance intended for permanent connection by conduit	N/A
	Tying the cord into a knot or tying the cord with string not used	Appliance intended for permanent connection by conduit	N/A
25.20	The insulated conductors of the supply cord for type Y and Z attachment additionally insulated from accessible metal parts	Appliance intended for permanent connection by conduit	N/A
25.21	Space for supply cord for type X attachment or for co-	onnection of fixed wiring	Р
	- to permit checking of conductors with respect to correct positioning and connection before fitting any cover		Р
	- so there is no risk of damage to the conductors or their insulation when fitting the cover		Р
	- for portable appliances, so that the uninsulated end of a conductor, if it becomes free from the terminal, prevented from contact with accessible metal parts	Not portable appliance	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	2 N test to the conductor for portable appliances; no contact with accessible metal parts	Not portable appliance	N/A
25.22	Appliance inlets:	L	N/A
	- live parts not accessible during insertion or removal	No Appliance Inlet	N/A
	Requirement not applicable to appliance inlets complying with IEC 60320-1	No Appliance Inlet	N/A
	- connector can be inserted without difficulty	No Appliance Inlet	N/A
	- the appliance is not supported by the connector	No Appliance Inlet	N/A
	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless	No Appliance Inlet	N/A
	the supply cord is unlikely to touch such metal parts	No Appliance Inlet	N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except that:	No interconnection cord	N/A
	the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11	No interconnection cord	N/A
	- the thickness of the insulation may be reduced	No interconnection cord	N/A
	If necessary, electric strength test of 16.3	No interconnection cord	N/A
25.24	Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected	No interconnection cord	N/A
25.25	Dimensions of pins that are inserted into socket-outlets compatible with the dimensions of the relevant socket-outlet.	No pins for insertion	N/A
	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083	No pins for insertion	N/A
26	TERMINALS FOR EXTERNAL CONDUCTORS		Р
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors		Р
	Terminals only accessible after removal of a non-detachable cover, except		Р
	for class III appliances that do not contain live parts	Class I appliance	N/A
	Earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection	Earthing terminals not accessible without removal of cover	N/A

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Clause	Requirement + Test	Result - Remark	Verdict	
26.2	Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless	No cords used	N/A	
	the connections are soldered	No cords used	N/A	
	Screws and nuts not used to fix any other component, except	No cords used	N/A	
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors	No cords used	N/A	
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless	No cords used	N/A	
	barriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint	No cords used	N/A	
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor	No cords used	N/A	
	Terminals fixed so that when the clamping means is	tightened or loosened:	N/A	
	- the terminal does not become loose	No cords used	N/A	
	- internal wiring is not subjected to stress	No cords used	N/A	
	- neither clearances nor creepage distances are reduced below the values in clause 29	No cords used	N/A	
	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm)	No cords used	N/A	
	No deep or sharp indentations of the conductors	No cords used	N/A	
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and	No cords used	N/A	
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened	No cords used	N/A	

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Clause	Requirement + Test	Result - Remark	Verdict	
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard	No cords used	N/A	
	Stranded conductor test, 8 mm insulation removed	No cords used	N/A	
	No contact between live parts and accessible metal parts and,	No cords used	N/A	
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only	No cords used	N/A	
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm²)	No cords used	N/A	
	If a specially prepared cord is used, terminals need only be suitable for that cord	No cords used	N/A	
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure	No cords used	N/A	
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other		Р	
26.9	Terminals of the pillar type constructed and located as specified		N/A	
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless	Tinsel cords not used	N/A	
	conductors ends fitted with means suitable for screw terminals	Tinsel cords not used	N/A	
	Pull test of 5 N to the connection	Tinsel cords not used	N/A	
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used	Permanently connected construction	N/A	
	For class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone	Permanently connected construction	N/A	
	If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free	Permanently connected construction	N/A	
27	PROVISION FOR EARTHING		Р	

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
27.1	Accessible metal parts of class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet		P
	Earthing terminals and earthing contacts not connected to the neutral terminal		Р
	Class 0, II and III appliances have no provision for earthing	Class I appliance	N/A
	Safety extra-low voltage circuits not earthed, unless	PELV	N/A
	protective extra-low voltage circuits		Р
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		Р
	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2,5 to 6 mm², and	No equipotential bonding conductors	N/A
	do not provide earthing continuity between different parts of the appliance, and	No equipotential bonding conductors	N/A
	conductors cannot be loosened without the aid of a tool	No equipotential bonding conductors	N/A
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part	No detachable parts with earth connections	N/A
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage	No supply cord	N/A
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal		Р
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		Р
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm	Stainless used for earth connection	N/A
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		Р
	In the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloys, precautions taken to avoid risk of corrosion	Not aluminium	N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts		Р

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Clause	Requirement + Test	Result - Remark	Verdict	
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance		P	
	Resistance not exceeding 0,1 $\square$ at the specified low-resistance test ( $\square$ )	Per reference project 4786940990	Р	
	If the ground continuity between system components meets the minimum values specified in 27.5, it is considered to meet the requirements without dedicated grounding conductors. (IEC 60335-2-40)		Р	
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.	No PCBs	N/A	
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit	No PCBs	N/A	
28	SCREWS AND CONNECTIONS	,	Р	
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		Р	
	Screws not of soft metal liable to creep, such as zinc or aluminium		Р	
	Diameter of screws of insulating material min. 3 mm	No screws of insulating material	N/A	
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity	No screws of insulating material	N/A	
	Screws used for electrical connections or connections providing earthing continuity screwed into metal		Р	
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation		Р	
	For type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw impairs basic insulation	Not type X attachment	N/A	
	For screws and nuts; torque-test as specified in table 14:	(see appended table) Per reference project 4787378268	Р	

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Clause	Requirement + Test	Result - Remark	Verdict	
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless		Р	
	there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material		Р	
	This requirement does not apply to electrical connect for which:	tions in circuits of appliances	Р	
	- 30.2.2 is applicable and that carry a current not exceeding 0,5 A		Р	
	- 30.2.3 is applicable and that carry a current not exceeding 0,2 A		Р	
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together	Grounding/bonding of sheet metal parts only	Р	
	Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread	Self-tapping screws not used	N/A	
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer	Self-tapping screws not used	N/A	
	Thread-cutting, thread rolling and space threaded so connections providing earthing continuity provided it connection:		Р	
	- in normal use,		Р	
	- during user maintenance,		Р	
	- when replacing a supply cord having a type X attachment, or	Not type X connection	N/A	
	- during installation		Р	
	At least two screws being used for each connection providing earthing continuity, unless		Р	
	the screw forms a thread having a length of at least half the diameter of the screw		Р	
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity	Minimum 2 screws used for grounding/bonding sheet metal parts	N/A	
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or	Minimum 2 screws used for grounding/bonding sheet metal parts	Р	

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Clause	Requirement + Test	Result - Remark	Verdict	
	if an alternative earthing circuit is provided	Minimum 2 screws used for grounding/bonding sheet metal parts	N/A	
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion	Rivets not used	N/A	
29	CLEARANCES, CREEPAGE DISTANCES AND SO	LID INSULATION	Р	
	Clearances, creepage distances and solid insulation withstand electrical stress		Р	
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), annex J applies	No PCBs	N/A	
	The microenvironment is pollution degree 1 under type 1 protection	No PCBs	N/A	
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3	No PCBs	N/A	
	These values apply to functional, basic, supplementary and reinforced insulation	No PCBs	N/A	
	For motor-compressor not complying with IEC 60335-2-34, additions and modifications as specified (IEC 60335-2-40)	Compressors certified to IEC 60335-2-34	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)	Р	
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14	Clearances sufficient	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	No parts subject to wear, distortion, or movement that could reduce clearances	N/A	
	Impulse voltage test is not applicable:	,	Р	
	- when the microenvironment is pollution degree 3, or	Clearances sufficient	N/A	
	- for basic insulation of class 0 and class 01 appliances	Class I appliance	N/A	
	Appliances are in overvoltage category II		Р	

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Clause	Requirement + Test	Result - Remark	Verdict
	A force of 2 N is applied to bare conductors, other than heating elements	No bare conductors	N/A
	A force of 30 N is applied to accessible surfaces	No measurable movement of steel enclosure on application of 30 N force which could reduce clearances	N/A
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		Р
	The values of table 16 or the impulse voltage test of clause 14 are applicable	(see appended table)	Р
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1	No heating elements	N/A
	Lacquered conductors of windings considered to be bare conductors	All motors are totally enclosed. Compliance of component clearances based on certification	Р
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16	No supplementary insulation	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)	Р
	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 v	alues determined from:	Р
	- table 16 based on the rated impulse voltage:	(see appended table)	Р
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		Р
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz	No 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	Clearances sufficient, impulse voltage test not required	N/A
	the microenvironment is pollution degree 3, or	Clearances sufficient, impulse voltage test not required	N/A
	the distances can be affected by wear, distortion, movement of the parts or during assembly	Clearances sufficient, impulse voltage test not required	N/A

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		Р	
	Lacquered conductors of windings considered to be bare conductors		Р	
	However, clearances at crossover points are not measured		Р	
	Clearance between surfaces of PTC heating elements may be reduced to 1mm	No heating elements	N/A	
29.1.5	Appliances having higher working voltages than rate insulation are the largest values determined from:	d voltage, clearances for basic	N/A	
	- table 16 based on the rated impulse voltage:	Working voltage same as rated voltage	N/A	
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz	Working voltage same as rated voltage	N/A	
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz	Working voltage same as rated voltage	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	Working voltage same as rated voltage	N/A	
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation	Working voltage same as rated voltage	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	Working voltage same as rated voltage	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	Working voltage same as rated 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	Working voltage same as rated voltage	N/A	

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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)	Р
	Pollution degree 2 applies, unless		Р
	- precautions taken to protect the insulation; pollution degree 1	No precautions taken to reduce pollution degree	N/A
	- insulation subjected to conductive pollution; pollution degree 3	No uninsulated live parts within condensing section and evaporator compartments	N/A
	A force of 2 N is applied to bare conductors, other than heating elements	No bare conductors	N/A
	A force of 30 N is applied to accessible surfaces	No movement of steel enclosure on application of 30 N force which could reduce clearances	N/A
	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	No double insulation	N/A
	Insulation located in airflow, pollution degree 3 unless (IEC 60335-2-40)	Only wiring to motors in airstream, no uninsulated live parts for clearance measurements	N/A
	insulation enclosed or located so that unlikely to be exposed to pollution due to normal use (IEC 60335-2-40)	Only wiring to motors in airstream, no uninsulated live parts for clearance measurements	Р
29.2.1	Creepage distances of basic insulation not less than specified in table 17:	(see appended table)	Р
	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	No frequency > 30 kHz	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		Р
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or	No supplementary insulation	N/A
	Table 2 of IEC 60664-4, as applicable	No supplementary insulation	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or	(see appended table)	Р
	Table 2 of IEC 60664-4, as applicable		Р
29.2.4	Creepage distances of functional insulation not less than specified in table 18	(see appended table)	Р
	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	No freq > 30 kHz	N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited	Creepage distances compliant without reduction	N/A
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		Р
	Compliance checked:	,	Р
	- by measurement, in accordance with 29.3.1, or	Compliance checked by measurement for reinforced insulation	Р
	- by an electric strength test in accordance with 29.3.2, or	Compliance checked by measurement for reinforced insulation	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	SELV wiring: Component certificate for internal wiring considered representative	Р
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or	No accessible parts of reinforced insulation	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	No accessible parts of reinforced insulation	N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm	All SI except SELV wiring evaluated as noted above	Р
	Reinforced insulation have a thickness of at least 2 mm		Р
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	SELV wiring evaluated as supplementary insulation by dry heat test	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Reinforced insulation consist of at least 3 layers	Insulation verified by thickness	N/A
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by	SELV wiring: Component certificate for internal wiring considered representative	N/A
	the electric strength test of 16.3	SELV wiring: Component certificate for internal wiring considered representative	N/A
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out	SELV wiring: Component certificate for internal wiring considered representative	N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19	No accessible parts of reinforced insulation	N/A
30	RESISTANCE TO HEAT AND FIRE	,	
30.1	External parts of non-metallic material,	No external non-metallic parts	N/A
	parts supporting live parts, and	Accepted per component certificates	Р
	parts of thermoplastic material providing supplementary or reinforced insulation	Accepted per component certificates	Р
	sufficiently resistant to heat	Accepted per component certificates	Р
	Ball-pressure test according to IEC 60695-10-2	Accepted per component certificates	Р
	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C)	(see appended table)	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)	Accepted per component certificates	Р
	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)	Accepted per component certificates	Р
30.2	Parts of non-metallic material resistant to ignition and spread of fire	Accepted per component certificates	Р
	This requirement does not apply to:		Р
	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		Р

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Clause	Requirement + Test	Result - Remark	Verdict
	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:		Р
	- for attended appliances, 30.2.2 applies		N/A
	- for unattended appliances, 30.2.3 applies		Р
	For appliances for remote operation, 30.2.3 applies		Р
	For base material of printed circuit boards, 30.2.4 applies	Accepted per component certificates	Р
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550 °C	HB40/HBF rating accepted per component certificates	N/A
	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	HB40/HBF rating accepted per component certificates	N/A
	the material is classified at least HB40 according to IEC 60695-11-10	Accepted per component certificates	Р
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF	Accepted per component certificates	Р
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		Р
	The tests are not applicable to conditions as specified:	SELV 15W circuit	Р
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and	Accepted per component certificates	Р
	parts of non-metallic material, other than small parts, within a distance of 3 mm,	Accepted per component certificates	Р
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C	Accepted per component certificates	Р
	Glow-wire applied to an interposed shielding material, if relevant	Accepted per component certificates	Р
	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	Accepted per component certificates	Р
30.2.3.2	Parts of non-metallic material supporting connections, and	Accepted per component certificates	Р
	parts of non-metallic material within a distance of 3 mm,	Accepted per component certificates	Р

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Clause	Requirement + Test	Result - Remark	Verdict
	subjected to glow-wire test of IEC 60695-2-11	Accepted per component certificates	Р
	The test severity is:		Р
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation	Accepted per component certificates	Р
	- 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 on parts of material fulfilling both or either of the following		Р
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least:	Accepted per component certificates	Р
	- 775 °C, for connections carrying a current exceeding 0,2 A during normal operation	Accepted per component certificates	Р
	- 675 °C, for other connections	Accepted per component certificates	Р
	- a glow-wire flammability index according to IEC 60695-2-12 of at least:	Accepted per component certificates	Р
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation	Accepted per component certificates	Р
	- 650 °C, for other connections	Accepted per component certificates	Р
	The glow-wire test is also not carried out on small pa	arts. These parts are to:	N/A
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or	Accepted per component certificates	N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	Accepted per component certificates	N/A
	- comply with the needle-flame test of annex E, or	Accepted per component certificates	N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10	Accepted per component certificates	N/A
	The consequential needle-flame test of annex E apprender encroach within the vertical cylinder placed above the zone and on top of the non-metallic parts supporting and parts of non-metallic material within a distance of these parts are those:	ne centre of the connection current-carrying connections,	N/A
	- 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	Accepted per component certificates	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	Accepted per component certificates	N/A
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	Accepted per component certificates	N/A
	- small parts for which the needle-flame test of annex E was applied, or	Accepted per component certificates	N/A
	- small parts for which a material classification of V-0 or V-1 was applied	Accepted per component certificates	N/A
	However, the consequential needle-flame test is no parts, including small parts, within the cylinder that a		N/A
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or	Accepted per component certificates	N/A
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or	Accepted per component certificates	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	Accepted per component certificates	N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of annex E	Accepted per component certificates	Р
	Test not applicable to conditions as specified:	Accepted per component certificates	N/A
31	RESISTANCE TO RUSTING	,	Р
	Relevant ferrous parts adequately protected against rusting		Р
	Tests specified in part 2 when necessary	G90 rating of outdoor enclosure material considered representative for outdoor corrosion resistance	N/A
	Salt mist test of IEC 60068-2-52, severity 2 (IEC 60335-2-40)		N/A
	Before test, coatings are scratched by means of a harden steel pin as specified (IEC 60335-2-40)		N/A
	Five scratches made at least 5 mm apart and at least 5 mm from the edges (IEC 60335-2-40)		N/A
	Appliance not deteriorated to such an extent that compliance with clause 8 and 27 is impaired (IEC 60335-2-40)		N/A
	Coating not be broken and not loosened from the metal surface (IEC 60335-2-40)		N/A

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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		Р
	Compliance is checked by the limits or tests specified in part 2, if relevant	No tests in part 2 standard	N/A
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		N/A
	Description of routine tests to be carried out by the manufacturer	Informative annex	N/A
В	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BA	ATTERIES	N/A
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance	Not battery operated	N/A
	This annex does not apply to battery chargers	Not battery operated	N/A
3.1.9	Appliance operated under the following conditions:		N/A
	- the appliance, supplied by its fully charged battery, operated as specified in relevant part 2		N/A
	- the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate		N/A
	- f possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2		N/A
	- if the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed		N/A
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable		N/A
5.B.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances		N/A
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals		N/A
	The positive terminal indicated by symbol IEC 60417-5005 and the negative terminal by symbol IEC 60417-5006		N/A
7.6	Symbols 60417-5005 and IEC 60417-5006		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.12	The instructions give information regarding charging		N/A
	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information		N/A
	Details about how to remove batteries containing materials hazardous to the environment given		N/A
7.15	Markings placed on the part of the appliance connected to the supply mains		N/A
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment		N/A
	If the appliance can be operated without batteries, double or reinforced insulation required		N/A
11.7	The battery is charged for the period stated in the instructions or 24 h		N/A
19.1	Appliances subjected to tests of 19.B.101, 19.B.102 and 19.B.103		N/A
19.10	Not applicable		N/A
19.B.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged		N/A
19.B.102	For appliances having batteries that can be removed without the aid of a tool, short-circuit of the terminals of the battery, the battery being fully charged,		N/A
19.B.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction		N/A
21.B.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength		N/A
	Part of the appliance incorporating the pins subjected 2, of IEC 60068-2-31, the number of falls being:	d to the free fall test, procedure	N/A
	- 100, if the mass of the part does not exceed 250 g (g)		N/A
	- 50, if the mass of the part exceeds 250 g:		N/A
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met		N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
25.13	An additional lining or bushing not required for interconnection cords in class III appliances or class III constructions operating at safety extra-low voltage not containing live parts		N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies		N/A
	For other parts, 30.2.2 applies		N/A
С	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		N/A
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding	Per motor insulation class declaration and certification	N/A
	Test conditions as specified	Per motor insulation class declaration and certification	N/A
Е	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		N/A
	Needle-flame test carried out in accordance with IEC modifications:	C 60695-11-5, with the following	N/A
7	Severities		N/A
	The duration of application of the test flame is 30 s ± 1 s	Per component control certification	N/A
9	Test procedure		N/A
9.1	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1		N/A
9.2	The first paragraph does not apply		N/A
	If possible, the flame is applied at least 10 mm from a corner		N/A
9.3	The test is carried out on one specimen		N/A
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test		N/A
11	Evaluation of test results		N/A
	The duration of burning not exceeding 30 s		N/A
	However, for printed circuit boards, the duration of burning not exceeding 15 s		N/A
F	ANNEX F (NORMATIVE) CAPACITORS		N/A
	Capacitors likely to be permanently subjected to the radio interference suppression or voltage dividing, conclauses of IEC 60384-14, with the following modifications.	omply with the following	N/A

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
1.5	Terms and definitions		N/A	
1.5.3	Class X capacitors tested according to subclass X2	No capacitors used for radio interference suppression or voltage dividing	N/A	
1.5.4	This subclause is applicable  No capacitors used for radio interference suppression or voltage dividing		N/A	
1.6	Marking		N/A	
	Items a) and b) are applicable	No capacitors used for radio interference suppression or voltage dividing	N/A	
3.4	Approval testing		N/A	
3.4.3.2	.2 Table 3 is applicable as described No capacitors used for radio interference suppression or voltage dividing		N/A	
4.1	Visual examination and check of dimensions			
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A	
4.2	Electrical tests		N/A	
4.2.1	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A	
4.2.5	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A	
4.2.5.2	Only table 11 is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A	
	Values for test A apply	No capacitors used for radio interference suppression or voltage dividing	N/A	
	However, for capacitors in heating appliances the values for test B or C apply	No capacitors used for radio interference suppression or voltage dividing	N/A	
4.12	Damp heat, steady state		N/A	
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A	
	Only insulation resistance and voltage proof are checked	No capacitors used for radio interference suppression or voltage dividing	N/A	

IEC 60335-2-40					
Clause	Requirement + Test	Result - Remark	Verdict		
4.13	Impulse voltage				
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A		
4.14	Endurance		N/A		
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 are applicable	No capacitors used for radio interference suppression or voltage dividing	N/A		
4.14.7	Only insulation resistance and voltage proof are checked	No capacitors used for radio interference suppression or voltage dividing	N/A		
	No visible damage	No capacitors used for radio interference suppression or voltage dividing	N/A		
4.17	Passive flammability test				
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A		
4.18	Active flammability test				
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A		
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS				
	The following modifications to this standard are applicable for safety isolating transformers:				
7	Marking and instructions		N/A		
7.1	Transformers for specific use marked with:		N/A		
	- name, trademark or identification mark of the manufacturer or responsible vendor	Accepted per component certificates	N/A		
	- model or type reference	Accepted per component certificates	N/A		
17	Overload protection of transformers and associated circuits				
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1	Accepted per component certificates	N/A		
22	Construction	•	N/A		
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable  Accepted per component certificates				
29	Clearances, creepage distances and solid insulation	า	N/A		

IEC 60335-2-40					
Clause	Requirement + Test	Result - Remark	Verdict		
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply		N/A		
	For insulated winding wires complying with subclause 19.12.3 of IEC 61558-1 there are no requirements for clearances or creepage distances		N/A		
	For windings providing reinforced insulation, the distance specified in item 2c of table 13 of IEC 61558-1 is not assessed		N/A		
	For safety isolating transformers subjected to periodic voltages with a frequency exceeding 30 kHz, the clearances, creepage distances and solid insulation values specified in IEC 60664-4 are applicable, if greater than the values specified in items 2a, 2c and 3 in table 13 of IEC 61558-1		N/A		
Н	ANNEX H (NORMATIVE) SWITCHES				
	Switches comply with the following clauses of IEC 61058-1, as modified below:				
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance	Accepted per component certificates	N/A		
	Before being tested, switches are operated 20 times without load	Accepted per component certificates	N/A		
8	Marking and documentation		N/A		
	Switches are not required to be marked		N/A		
	However, a switch that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference		N/A		
13	Mechanism		N/A		
	The tests may be carried out on a separate sample		N/A		
15	Insulation resistance and dielectric strength		N/A		
15.1	Not applicable		N/A		
15.2	Not applicable		N/A		
15.3	Applicable for full disconnection and micro-disconnection		N/A		
17	Endurance		N/A		
	Compliance is checked on three separate appliances or switches		N/A		
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		N/A		
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335		N/A		

IEC 60335-2-40				
Clause	Requirement + Test	Result - Remark	Verdict	
	Switches for operation under no load and which can be operated only by a tool, and		N/A	
	switches operated by hand that are interlocked so that they cannot be operated under load,		N/A	
	are not subjected to the tests		N/A	
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation		N/A	
	Subclauses 17.2.2 and 17.2.5.2 not applicable		N/A	
	The ambient temperature during the test is that occurring in the appliance during the test of clause 11 in IEC 60335-1		N/A	
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K)		N/A	
20	Clearances, creepage distances, solid insulation and assemblies	d coatings of rigid printed board	N/A	
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24		N/A	
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS			
	Testing of protective coatings of printed circuit board with IEC 60664-3 with the following modifications:	s carried out in accordance	N/A	
5.7	Conditioning of the test specimens		N/A	
	When production samples are used, three samples of the printed circuit board are tested	Testing not required per component certification	N/A	
5.7.1	Cold		N/A	
	The test is carried out at -25 °C		N/A	
5.7.3	Rapid change of temperature		N/A	
	Severity 1 is specified		N/A	
5.9	Additional tests		N/A	
	This subclause is not applicable		N/A	
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		Р	
	The information on overvoltage categories is extracted from IEC 60664-1		Р	
	Overvoltage category is a numeral defining a transient overvoltage condition		Р	

IEC 60335-2-40				
Clause	Requirement + Test	Result - Remark	Verdict	
	Equipment of overvoltage category IV is for use at the origin of the installation	Equipment is overvoltage category II	N/A	
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements	Equipment is overvoltage category II	N/A	
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation		Р	
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies	Equipment is overvoltage category II	N/A	
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level	Equipment is overvoltage category II	N/A	
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES			
	Information for the determination of clearances and creepage distances	Informative Annex	N/A	
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		Р	
	The information on pollution degrees is extracted from IEC 60664-1		Р	
	Pollution		Р	
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment		Р	
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		Р	
	Minimum clearances specified where pollution may be present in the microenvironment		Р	
	Degrees of pollution in the microenvironment		Р	
	For evaluating creepage distances, the following deg microenvironment are established:	grees of pollution in the	Р	
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence	Pollution degree 2 applicable	N/A	
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected		Р	

	IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict	
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected	Only in evaporator section, which does not have any uninsulated live parts	Р	
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow	Pollution degree 2 applicable	N/A	
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		N/A	
	The proof tracking test is carried out in accordance following modifications:	with IEC 60112 with the	N/A	
7	Test apparatus		N/A	
7.3	Test solutions		N/A	
	Test solution A is used	Component certificate considered representative	N/A	
10	Determination of proof tracking index (PTI)			
10.1	Procedure		N/A	
	The proof voltage is 100 V, 175 V, 400 V or 600 V		N/A	
	The test is carried out on five specimens		N/A	
	In case of doubt, additional test with proof voltage reduced by 25 V, the number of drops increased to 100		N/A	
10.2	Report		N/A	
	The report states if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V		N/A	
0	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF clause 30			
	Description of tests for determination of resistance to heat and fire	Informative annex	N/A	
Р	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES			
	Modifications applicable for class 0 and 01 appliances having a rated voltage exceeding 150 V, intended to be used in countries having a warm damp equable climate and that are marked WDaE			
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150 V, intended to be used in countries having a warm damp equable climate and that are marked WDaE, if liable to be connected to a supply mains that excludes the protective earthing conductor			

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Clause	Requirement + Test	Result - Remark	Verdict		
5.7	The ambient temperature for the tests of clauses 11 and 13 is 40 +3/0 °C	Informative annex	N/A		
7.1	The appliance marked with the letters WDaE		N/A		
7.12	The instructions state that the appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA		N/A		
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries		N/A		
11.8	The values of Table 3 are reduced by 15 K		N/A		
13.2	The leakage current for class I appliances not exceeding 0,5 mA		N/A		
15.3	The value of t is 37 °C		N/A		
16.2	The leakage current for class I appliances not exceeding 0,5 mA (mA):		N/A		
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3		N/A		
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION O	F ELECTRONIC CIRCUITS	N/A		
	Description of tests for appliances incorporating elec	tronic circuits	N/A		
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		N/A		
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 validated in accordance with the requirements of this annex	Software not relied on for safety	N/A		
R.1	Programmable electronic circuits using software		N/A		
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 constructed so that the software does not impair compliance with the requirements of this standard		N/A		
R.2	Requirements for the architecture		N/A		
N/A	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 use measures to control and avoid software-related faults/errors in safety-related data and safety-related segments of the software		N/A		

	IEC 60335-2-40				
Clause	Requirement + Test Result - Remark	Verdict			
R.2.1.1	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.2 have one of the following structures:				
	- single channel with periodic self-test and monitoring	N/A			
	- dual channel (homogenous) with comparison	N/A			
	- dual channel (diverse) with comparison	N/A			
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 have one of the following structures:	N/A			
	- single channel with functional test	N/A			
	- single channel with periodic self-test	N/A			
	- dual channel without comparison	N/A			
R.2.2	Measures to control faults/errors	N/A			
R.2.2.1	When redundant memory with comparison is provided on two areas of the same component, the data in one area is stored in a different format from that in the other area	N/A			
R.2.2.2	Programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.2 and that use dual channel structures with comparison, have additional fault/error detection means for any fault/errors not detected by the comparison	N/A			
R.2.2.3	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, means are provided for the recognition and control of errors in transmissions to external safety-related data paths	N/A			
R.2.2.4	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the programmable electronic circuits incorporate measures to address the fault/errors in safety-related segments and data indicated in table R.1 and R.2 as appropriate	N/A			
R.2.2.5	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, detection of a fault/error occur before compliance with clause 19 is impaired	N/A			

	IEC 60335-2-40				
Clause	Requirement + Test	Result - Remark	Verdict		
R.2.2.6	The software is referenced to relevant parts of the operating sequence and the associated hardware functions		N/A		
R.2.2.7	Labels used for memory locations are unique		N/A		
R.2.2.8	The software is protected from user alteration of safety-related segments and data				
R.2.2.9	Software and safety-related hardware under its control is initialized and terminates before compliance with clause 19 is impaired				
R.3	Measures to avoid errors		N/A		
R.3.1	General		N/A		
	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the following measures to avoid systematic fault in the software are applied				
	Software that incorporates measures used to control the fault/error conditions specified in table R.2 is inherently acceptable for software required to control the fault/error conditions specified in table R.1		N/A		
R.3.2	Specification		N/A		
R.3.2.1	Software safety requirements:	Software Id:	N/A		
	The specification of the software safety requirements includes the descriptions listed		N/A		
R.3.2.2	Software architecture		N/A		
R.3.2.2.1	The specification of the software architecture includes the aspects listed	Document ref. No:	N/A		
	<ul> <li>techniques and measures to control software faults/errors (refer to R.2.2);</li> </ul>				
	- interactions between hardware and software;				
	- partitioning into modules and their allocation to the specified safety functions;				
	<ul> <li>hierarchy and call structure of the modules (control flow);</li> </ul>				
	- interrupt handling;				
	- data flow and restrictions on data access;				
	- architecture and storage of data;				
	- time-based dependencies of sequences and data				
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis		N/A		

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Clause	Requirement + Test	Result - Remark	Verdict
R.3.2.3	Module design and coding		N/A
R.3.2.3.1	Based on the architecture design, software is suitably refined into modules		N/A
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements		N/A
R.3.2.3.2	Software code is structured		N/A
R.3.2.3.3	Coded software is validated against the module specification by static analysis		N/A
	The module specification is validated against the architecture specification by static analysis		N/A
R.3.3.3	Software validation		N/A
	The software is validated with reference to the requirements of the software safety requirements specification		N/A
	Compliance is checked by simulation of:		N/A
	- input signals present during normal operation		N/A
	- anticipated occurrences		N/A
	- undesired conditions requiring system action		N/A

	TABLE R.1 ° – GENERAL FAULT/ERROR CONDITIONS						
Component	Fault/error	Acceptable measures b, c	Definitions	Document reference for applied measure	Document reference for applied test	Ver-di ct	
1 CPU				N/A	N/A	N/A	
1.1							
Registers	Stuck at	Functional test, or	H.2.16.5				
		periodic self-test using either:	H.2.16.6				
		- static memory test, or	H.2.19.6				
		<ul> <li>word protection with single bit redundancy</li> </ul>	H.2.19.8.2				
1.2 VOID				N/A	N/A	N/A	
1.3	Stuck at	Functional test, or	H.2.16.5	N/A	N/A	N/A	
Programme counter		Periodic self-test, or	H.2.16.6				
		Independent time-slot monitoring, or	H.2.18.10.4				
		Logical monitoring of the programme sequence	H.2.18.10.2				

		IEC 60335-2-	40				
Clause	Requirement	+ Test		Result -	Remark		Verdict
	1	T			N1/A	N1/A	N1/A
2 Interrupt handling and execution	No interrupt or too frequent interrupt	Functional test, or time-slot monitoring	H.2.1	16.5 18.10.4	N/A	N/A	N/A
3 Clock	Wrong frequency (for quartz synchroniz ed clock: harmonics/ sub-harmo nics only)	Frequency monitoring, or time slot monitoring		18.10.1 18.10.4	N/A	N/A	N/A
4. Memory					N/A	N/A	N/A
4.1	All single	Periodic modified checksum, or	H.2.1	19.3.1			
Invariable memory	bit faults	multiple checksum, or	H.2.1	19.3.2			
		word protection with single bit redundancy	H.2.1	19.8.2			
4.2	DC fault	Periodic static memory test, or	H.2.1	19.6	N/A	N/A	N/A
Variable memory		word protection with single bit redundancy	H.2.1	19.8.2			
4.3 Addressing (relevant to variable and invariable memory)	Stuck at	Word protection with single bit redundancy including the address	H.2.1	19.8.2	N/A	N/A	N/A
5 Internal data path	Stuck at	Word protection with single bit redundancy	H.2.1	19.8.2	N/A	N/A	N/A
5.1 VOID					N/A	N/A	N/A
5.2 Addressing	Wrong address	Word protection with single bit redundancy including the address	H.2.1	19.8.2	N/A	N/A	N/A
6 External	Hamming distance 3	Word protection with multi-bit redundancy, or	H.2.1	19.8.1	N/A	N/A	N/A
communicat ion		CRC – single work, or	H.2.1	19.4.1			
		Transfer redundancy, or	H.2.1	18.2.2			
		Protocol test	H.2.1	18.14			
6.1 VOID					N/A	N/A	N/A

IEC 60335-2-40				
Clause	Requirement + Test	Result - Remark	Verdict	

6.2 VOID				N/A	N/A	N/A
6.3	Wrong	Time-slot monitoring, or	H.2.18.10.4	N/A	N/A	N/A
Timing	point in time	scheduled transmission	H.2.18.18			
		Time-slot and logical monitoring, or	H.2.18.10.3			
		comparison of redundant communication channels by either:				
		- reciprocal comparison	H.2.18.15			
		<ul> <li>independent hardware comparator</li> </ul>	H.2.18.3			
	Wrong	Logical monitoring, or	H.2.18.10.2			
	sequence	time-slot monitoring, or	H.2.18.10.4			
		Scheduled transmission	H.2.18.18			
7 Input/output periphery	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13	N/A	N/A	N/A
7.1 VOID				N/A	N/A	N/A
7.2 Analog I/O				N/A	N/A	N/A
7.2.1 A/D and D/A- converter	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13			
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13	N/A	N/A	N/A
8 VOID				N/A	N/A	N/A
9 Custom chips <sup>d</sup> e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specificatio n	Periodic self-test	H.2.16.6	N/A	N/A	N/A

NOTE A Stuck-at fault model denotes a fault model representing an open circuit or a non-varying signal level. A DC fault model denotes a stuck-at fault model incorporating short circuit between signal lines.

a) For fault/error assessment, some components are divided into their sub-functions.
b) For each sub-function in the table, the Table R.2 measure will cover the software fault/error.

c) Where more than one measure is given for a sub-function, these are alternatives.

d) To be divided as necessary by the manufacturer into sub-functions.

e) Table R.1 is applied according to the requirements of R.1 to R.2.2.9 inclusive.

	IEC 60335-2-40					
Clause	Requirement + Test	Result - Remark	Verdict			
AA	ANNEX AA (INFORMATIVE) (IEC 60 EXAMPLES FOR OPERATING TEM		N/A			
ВВ	ANNEX BB (NORMATIVE) (IEC 603 SELECTED INFORMATION ABOUT		Р			
CC	ANNEX CC (INFORMATIVE) (IEC 60 TRANSPORTATION, MARKING AN FLAMMABLE REFRIGERANTS	0335-2-40) D STORAGE FOR UNITS THAT EMPLOY	N/A			

CC	ANNEX CC (INFORMATIVE) (IEC 60335-2-40) TRANSPORTATION, MARKING AND STORAGE FOR UNITS THAT EMPLOY FLAMMABLE REFRIGERANTS				
CC.1	C.1 Transport of equipment containing flammable refrigerants (IEC 60335-2-40)  No flammable refrigerants used				
CC.2	Marking of equipment using signs (IEC 60335-2-40)	No flammable refrigerants used	N/A		
CC.3	Disposal of equipment using flammable refrigerants (IEC 60335-2-40)	No flammable refrigerants used	N/A		
CC.4	Storage of equipment/appliances (IEC 60335-2-40)	No flammable refrigerants used	N/A		
CC.5	Storage of packed (unsold) equipment (IEC 60335-2-40)	No flammable refrigerants used	N/A		

DD	ANNEX DD (NORMATIVE) (IEC 60335-2-40) INSTRUCTION MANUAL FOR SERVICING REFRIGERANT CONTAINING APPLIANCES				
DD.1	Symbols (IEC 60335-2-40)	No flammable refrigerants used	N/A		
DD.2.	Information in manual (IEC 60335-2-40)  No flammable refrigerants used		N/A		
DD.2.1	General (IEC 60335-2-40)	No flammable refrigerants used	N/A		
DD.2.2	Unventilated areas (IEC 60335-2-40)	No flammable refrigerants used	N/A		
DD.2.3	Qualification of workers (IEC 60335-2-40)	No flammable refrigerants used	N/A		
DD.3	Information on servicing (IEC 60335-2-40)	No flammable refrigerants used	N/A		
DD3.1	Checks to the area (IEC 60335-2-40)	No flammable refrigerants used	N/A		
DD.3.2	Work procedure (IEC 60335-2-40)	No flammable refrigerants used	N/A		

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict
DD.3.3	General work area (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.3.4	Checking for presence of refrigerant (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.3.5	Presence of fire extinguisher (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.3.6	No ignition sources (IEC 60335-2-40)  No flammable refrige used		N/A
DD.3.7	Ventilated area (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.3.8	Checks to the refrigeration equipment (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.3.9	Checks to electrical devices (IEC 60335-2-40)  No flammable refrigerants used		N/A
DD.4	Repairs to sealed components (IEC 60335-2-40)  No flammable refrigerants used		N/A
DD.5	Repair to intrinsically safe components (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.6	Cabling (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.7	Detection of flammable refrigerants (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.8	Leak detection methods (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.9	Removal and evacuation (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.10	Charging procedures (IEC 60335-2-40)	No flammable refrigerants used	N/A
DD.11	Decommissioning (IEC 60335-2-40)  No flammable refrigerants used		N/A
DD.12	Labelling (IEC 60335-2-40)  No flammable refrigerants used		N/A
DD.13	Recovery (IEC 60335-2-40)	No flammable refrigerants used	N/A

EE	ANNEX EE (NORMATIVE) (IEC 60335-2-40) PRESSURE TESTS		Р
EE.1	General (IEC 60335-2-40)	Accepted per component certificates	Р
EE.2	Pressure test value determined under testing carried out in clause 11 (IEC 60335-2-40)	Accepted per component certificates	Р

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Clause	Requirement + Test	Result - Remark	Verdict			
EE.3	Pressure test value determined under testing carried out in clause 19 (IEC 60335-2-40)	Accepted per component certificates	Р			
EE.4	Pressure test value determined under testing carried out under standstill conditions (IEC 60335-2-40)	Accepted per component certificates	N/A			
EE.5	Fatigue test option for Clauses EE.1 and EE.4.1 (IEC 60335-2-40)	Accepted per component certificates	N/A			

FF	ANNEX FF (NORMATIVE) (IEC/EN 60335-2-40) LEAK SIMULATION TESTS		N/A
FF.1	General (IEC 60335-2-40)	No flammable refrigerants used	N/A
FF.2	Test methods (IEC 60335-2-40)	No flammable refrigerants used	N/A

GG	ANNEX GG (NORMATIVE) (IEC/EN 60335-2-40) CHARGE LIMITS, VENTILATION REQUIREMENTS AND REQUIREMENTS FOR SECONDARY CIRCUITS			
GG.1	General (IEC 60335-2-40)	No flammable refrigerants used	N/A	
GG.2	Requirements for charge limits in unventilated areas (IEC 60335-2-40)  No flammable refrigerants used			
GG.3	Requirements for charge limits in areas with mechanical ventilation areas (IEC 60335-2-40)	No flammable refrigerants used	N/A	
GG.4	Requirements for mechanical ventilation within the appliance enclosure (IEC 60335-2-40)	No flammable refrigerants used	N/A	
GG.5	Requirements for mechanical ventilation for rooms complying with ISO 5149 (IEC 60335-2-40)	No flammable refrigerants used	N/A	
GG.6	Requirements for refrigeration systems employing secondary heat exchangers (IEC 60335-2-40)	No flammable refrigerants used	N/A	
GG.7	Additional testing (IEC 60335-2-40)	No flammable refrigerants used	N/A	
GG.8	Non-fixed factory sealed single package units with a charge amount of $m_1 < M \le 2 \times m_1$ (IEC 60335-2-40)	No flammable refrigerants used	N/A	

		IEC 60335-2-40		
Clause	Requirement + Test		Result - Remark	Verdict

10.1	TABLE: Power input deviation					N/A
Input deviati	on of/at:	P rated (W)	P measured (W)	ΔΡ	Required $\Delta$ P	Remark
N/A		N/A	N/A	N/A	N/A	N/A
Supplementary information: Unit rated in amperes						

10.2	TABLE: Curre	rrent deviation					
Current deviation of/at:		I rated (A)	I measured (A)	ΔΙ	Required Δ I	R	emark
EACBZS066AND @ 380V		2.78A indoor blower 9.12A compressor	Same	0	+15%		P
		0.42 outdoor motor					
EACBZS066AND @ 415V		2.62A indoor blower	Same	0	+15%		Р
		8.92A compressor					
		0.41 outdoor motor					
EACBZ120A	VA @ 390V	24.5A	Same	0	+15%		Р
Supplementa	ary information:	Nameplates bas	sed on test results				

	IEC 60335-2-40							
Clause	Requirement + Test		Result - Remai	rk	Verdict			
11.8	TABLE: Heating test				Р			
	Test voltage (V)		357V and 440V for model EACBZS		_			
				4V for model DZS				
	Ambient (°C)	:	5	2	_			
Thermoco	ouple locations		mperature red, T (°C)	Max. temperatu	re limit, T			
(+)		(+) (+)		(+)				
Supplem	entary information:							
(+) See a	ttachment #4 for data							

11.8	TABLE: Heating test, resistance method						N/A	
	Test voltage (V)			:	N/A			
	Ambient, t1 (°C)			:	N/A			
	Ambient, t2 (°C)						_	
Temperature rise of winding		R1 (Ω)	R2 (Ω)		T (°C) Max. T (°C)		Insulation class	
N/A		N/A	N/A	N	I/A	N/A	N/A	
Supplem	nentary information:							

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Clause	Requirement + Test	Result - Remark	Verdict

13.2	TABLE: Leakage current			Р
	Heating appliances: 1,15 x rated input (W):	N/A		
	Motor-operated and combined appliances: 440V for model EACBZS		EACBZS	
	1,06 x rated voltage (V)	424V for model	EACDZS	
Leakage	current between	I (mA) Max. allo		ed I (mA)
EACBZS A open	066AND – ground terminal to supply ground with line	0.8	3.5	
EACBZS B open	066AND – ground terminal to supply ground with line	0.88	3.5	
EACBZS C open	066AND – ground terminal to supply ground with line	0.50	3.5	
EACBZS lines clos	066AND – ground terminal to supply ground with all sed	0.88	3.5	
Supplem	entary information: EACBZ120AVA reviewed as part o	f reference project 47	788008226.	

13.3	TABLE: Dielectric strength			Р
Test voltage	e applied between:	Test potential applied (V)	Breakdown / f (Yes/N	
Power and	earthing terminal	1000	No	
Transforme	er primary to secondary	3000	No	
Foil over internal wiring adjacent SELV wiring to SELV wiring conductors		1750	No	
Supplemen	tary information:			

14	TABLE: Transient overvoltages						N/A
Clearance between:		CI (mm)	Required CI (mm)	Rated impulse voltage (V)	Impulse test voltage (V)		ashover Yes/No)
N/A		N/A	N/A	N/A	N/A	N/A	١
Supplement	Supplementary information:						

	IEC 60335-2-40		
Clause	Requirement + Test	Result - Remark	Verdict

16.2	TABLE: Leakage current				
	Single phase appliances: 1,06 x rated voltage (V)	N/A 244V for EACBZS,		_	
	Three phase appliances 1,06 x rated voltage divided by √3 (V):			_	
Leakage cu	urrent between	I (mA) Max. allow		ed I (mA)	
Power to e	nclosure	9.90	9.918 (		

Supplementary information: (+) Limit based on 2 mA per kW rated power and rated power of 4.959 kW (415V \*(2.62A indoor blower + 8.92A compressor + 0.41 outdoor motor)

16.3	TABLE: Dielectric strength		Р
Test voltage	e applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Power to Gr	nd	1250	No
Foil over int	ernal wiring to low voltage terminal	1750	No
Transforme	r primary to secondary	3000	No
Supplement	tary information:		

17	TABLE: Overload protection			N/A
Thermocoup	ole locations	Max. temperature rise measured, Δ T (K)	Max. temperat limit, Δ T	
N/A		N/A	N/A	
Supplement	ary information:			

		IE	EC 60335-2-40				
Clause	Requirement + Test			Result - R	Result - Remark		
17	TABLE: Overless	d protoction ro	sistanaa math	nd			N/A
17	Test voltage (V)			11/4			- IN/A
				: N/A	N/A		
	Ambient, t2 (°C).			. N/A			_
Tempera	ture of winding	R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Ma	ax. T (°C)
N/A		N/A	N/A	N/A	N/A	N/A	A
Suppleme	entary information:						

				IEC 60335-	2-40				
Clause	Requirement +	Test				Resu	lt - Remark		Verdict
19	Abnormal am	orotion or	. n diti	lana					Р
	Abnormal op			S/NO	Operat	ional o	onditions		P
	lectronic circuits		No	5/INO	N/A	ioriai c	onditions		
	appliance opera		INO						
Are there "oposition?	off" or "stand-by	,,	Yes				and as indica ment #4	ated in indivi	dual
	nded operation esults in dange n?		No				and as indica ment #4	ated in indivi	dual
Sub-claus e	Operating conditions description	Test res descript		PEC description		MP 11.4	Software type required	19.11.3 PEC	Final result
19.2	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.3	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.4	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.5	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.6	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.7	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.8	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.9	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.10	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.11.2	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.11.4.8	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.14	N/A	N/A		N/A	N/A		N/A	N/A	Р
19.101	Air to outdoor heat exchanger restricted	High pressure switch activated to prevent operation		N/A	N/A		N/A	N/A	Р
19.102	N/A	N/A		N/A	N/A		N/A	N/A	N/A
19.103	62C ambient operation	Pressure limiting control activated prevent operation	I to	N/A	N/A		N/A	N/A	Р
19.104	N/A	N/A		N/A	N/A		N/A	N/A	N/A
Supplemen	tary information	: See data	shee	ts in Attachme	ent #4.				•

		IEC 60335-2-40					
Clause	Requirement + Test	Result - Remark	Verdict				
19.4	40.4 Abnormal apprehing and distance						
	Abnormal operation conditions						
Failure de	Failure description Effect						
N/A		N/A	N/A				
Supplem	entary information:						

19.7	Abnormal operation conditions – locked rotor test other than motor- compressors and stationary circulation pumps in compliance with IEC 60335-2-51						
	Ambient, t1 (°C):	Ambient, t1 (°C):					
	Ambient, t2 (°C):	. ,			N/A N/A		
	Test voltage (V):						
Temperature limit T of winding:		R <sub>1</sub> (Ω)	R <sub>2</sub>	(Ω)	Measured T (°C)	Limit T (°C)	Insulation class
N/A		N/A	N/A		N/A	N/A	N/A

19.7	TABLE: electric strength measurements after 72 hours				
Test voltage applied between:		Test voltage (V) Break Yes		_	
N/A		N/A	N/A		

19.7	TABLE: leakage current measurements after 72 hours			
	A voltage equal to twice the rated voltage (V):	N/A		_
Leakage cu	urrent I between :	I (mA)	Required	II (mA)
N/A		N/A	N/A	

		IEC 603	35-2-40				
Clause	Requirement + Test			R	esult - Ren	nark	Verdict
19.7	Abnormal operation cond	itions – Lock	ed rotor	test	motor-cor	npressor	N/A
	Motor-compressor		:	N/A	A .		<b>'</b>
	Start device		:	N/A	4		
	Protector		:	N/A	4		
	Start capacitor		:	N/A	A		
	Run capacitor		:	N/A	A		
	Cooling; (static); (fan-m <sup>3</sup> /h);	(oil);	:	N/A	4		
	Thermal motor-protection sy	stem	em: N/A				
			Se	elf-res	setting		Manually reset
Rated vo	oltage		Vn max (V)			Vn max (V)	Vn min (V)
		After 72 h	Afte 288	•	After 360 h	After 363 h	After 50 cycles
High-volt	tage test (see 16.3)	N/A	N/A		N/A	N/A	N/A
Leakage	current (mA) (see 16.2)	N/A	N/A		N/A	N/A	N/A
Electric strength (see 13.3)		N/A	N/A		N/A	N/A	N/A
Room temperature (°C) (20 ± 5°C)		N/A	N/A		N/A	N/A	N/A
Number of cycles (≥ 2000 or 50)		N/A	N/A		N/A	N/A	N/A
Housing	temperature (°C) (≤ 150°C)	N/A	N/A		N/A	N/A	N/A
suppleme	entary information:					<u> </u>	1

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Clause	Requirement + Test	Result - Remark	Verdict			

19.11.2	Abnormal Op	Abnormal Operation						
Fault conditi	ion	Short circuit	Open circuit	Effect	Verdict			
N/A		N/A	N/A	N/A	N/A			

19.13	TABLE: Abnormal operation, temperature rises				
Thermocou	ple locations	Max. temperature rise measured, Δ T (K)	Max. temperate limit, Δ T		
(+)		(+)	(+)		
	tary information: asheets in Attachment #4				

19.101- 104	Abnormal operation conditions			
Subclause		Effect	Verdict	
19.101		Unit cycled on pressure limiting control to limit temperatures and pressures.	Р	
19.102		N/A	N/A	
19.103		Per previous evaluation 4786940987: Unit cycled on pressure limiting control to limit temperatures and pressures.	Р	
19.104		N/A	N/A	
Suppleme	ntary information:		•	

21.1	TABLE: Im	ABLE: Impact resistance					
Impacts per surface		Surface tested Impact energy (Nr		Commer	nts		
Enclosure (+)		Field wiring enclosure (+)	0,5J (+)	Pass (+	·)		
Supplement	ary information	on:					
(+) Per refer	rence project	4786940990					

IEC 60335-2-40						
Clause	Requirement + Test	Result - Remark	Verdict			

24.1	TAB	LE: Critical comp	onents informat	ion			Р
Object / part	No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Ma	rk(s) of formity <sup>1)</sup>
Enclosure		N/A	Galvanized steel, 0.787 mm minimum thickness	G60 with one coat of corrosion protection paint system (see below) or G90 without paint	N/A	N/A	<b>\</b>
Corrosion protection passystem	aint	Akzo Nobel Coatings Inc	156(+) Polyester	15 min bake time at 375F	UL1332	UR	
(alternate)		Ferro	VEDOC VP(+)	15 min bake time at 375F	UL1332	UR	
(alternate)		Valspar Powder Coatings	100-199 series polyester	15 min bake time at 375F	UL1332	UR	
(alternate)			200-299 series polyester	15 min bake time at 375F	UL1332	UR	
(alternate)			KOP13240P2 0	15 min bake time at 375F	UL1332	UR	
(alternate)			KOP13243P4 0	15 min bake time at 375F	UL1332	UR	
(alternate)		I V C Industrial Coatings Inc	B11024PG65 K-L	15 min bake time at 375F	UL1332	UR	
(alternate)			B11675PH65 K	15 min bake time at 375F	UL1332	UR	
(alternate)			B11676PA65 K	15 min bake time at 375F	UL1332	UR	
(alternate)			B1178PH65K	15 min bake time at 375F	UL1332	UR	
Internal Wirir	ng	Any	Any AVLV2 and CSA or AVLV8 recognized wiring material	Rated minimum 600V, 90C, VW-1. Wiring sized for ampacity required: 12AWG between compressor and contactor, 16AWG from run capacitor to contactor, 16AWG from run Capacitor to compressor, 22AWG all other wiring.	UL758 and CSA C22.2 NO. 210		Rus or and A

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Clause	Requirement + Test	Result - Remark	Verdict	

Control compartn	nent:				
Capacitor (models (E/V)MRHRX12 0AVA#, (E/V)MRHRX09 6AVA#, (E/V)MRHRX06 6AVT#, (E/V)MRHRX06 0AVT#, (E/V)MRHRX12 0ANA#, (E/V)MRHRX10 2ANA#, (E/V)MRHRX05 4ANT#, (E/V)MRHRX04 2ANT# only)	CSC (Nueva Generacion Manufacturas S A DE C V)	325P(+)	Rated -40 to 70C, 370Vac	UL810 and CSA C22.2 no. 190	cURus
Compressor Contactor ((E/V)MRHRX1 20AVA#, (E/V)MRHRX12 0ANA#, (E/V)MRHRX10 2ANA#only)	Zettler	XMCO-403- EBBD00F	Rated 3ph, 40FLA, 240LRA, 480V, 100k cycles.	UL508 and CSA C22.2 no. 14	cURus
Compressor Contactor ((E/V)MRHRX0 96AVA#, (E/V)MRHRX07 2AVT#, (E/V)MRHRX06 6AVT#, (E/V)MRHRX06 0AVT#, (E/V)MRHRX07 8ANT#, (E/V)MRHRX06 6ANT#, (E/V)MRHRX05 4ANT#, (E/V)MRHRX05 4ANT#, (E/V)MRHRX04 2ANT# only)	Zettler	XMC0-323- EBBD00F	Rated 24V coil; 32FLA and 150LRA at 480V; 50/60 Hz	UL508 and CSA C22.2 no. 14 IEC 60947-4-1	cURus CE

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Clause	Requirement + Test	Result - Remark	Verdict	

Blower Contactor (model (E/V)MRHRX12 0AVA#, (E/V)MRHRX09 6AVA#, (E/V)MRHRX12 0ANA#, (E/V)MRHRX10 2ANA# only)	Zettler	XMC0-323- EBBD00F	Rated 24V coil; 32FLA and 150LRA at 480V; 50/60 Hz	UL508 and CSA C22.2 no. 14 IEC 60947-4-1	cURus
Blower Contactor (model (E/V)MRHRX07 2AVT#, (E/V)MRHRX06 6AVT#, (E/V)MRHRX06 0AVT#, (E/V)MRHRX07 8ANT#, (E/V)MRHRX06 6ANT#, (E/V)MRHRX05 4ANT#, (E/V)MRHRX04 2ANT# only)	Honeywell	R8222B1182	6000c, 3/4 hp, 480Vac; 30 000c, 3 FLA, 12 LRA, 600Vac;	UL508 and CSA C22.2 no. 14 IEC 60947-4-1	cURus
Transformer (model (E/V)MRHRX12 0AVA#, (E/V)MRHRX09 6AVA#, (E/V)MRHRX12 0ANA#, (E/V)MRHRX10 2ANA# only)	Basler	BE34703001	100VA, 25V secondary, Class 2, 460/575V primary, 50/60 Hz. UL report E23366	UL5058-1, CSA C22.2 No. 66.1- 06 and CSA C22.2 No. 66.3- 06	cURus

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Clause	Requirement + Test	Result - Remark	Verdict	

Transformer (model (E/V)MRHRX07 2AVT#, (E/V)MRHRX06 6AVT#, (E/V)MRHRX06 0AVT#, (E/V)MRHRX07 8ANT#, (E/V)MRHRX06 6ANT#, (E/V)MRHRX05 4ANT#, (E/V)MRHRX04 2ANT# only)	Basler	BE34703002	100VA, 25V secondary, Class 2, 460/575V primary, 50/60 Hz. UL report E23366	UL5058-1, CSA C22.2 No. 66.1- 06 and CSA C22.2 No. 66.3- 06	cURus
Low voltage terminal strip	Any	Any	Used for ground connections	None	None
Heater Kit connector	N/A	N/A	Part of wiring harness for US constructions, no heater kit supplied with this construction	N/A	N/A
Class 2 controls (time delay relay, similar)	Any	Any	Rated 24V and part of PELV circuit	None	None
Evaporator Section	on:				
Filter Media	N/A	Any	Any UL classified AJZV/7 filters	UL900 and ULC- S111	cULus
Low pressure switch	Sensata	PS80(+)	Rated 8A, 240V, 418 psig. Autoreset	UL873 and CSA C22.2 No. 24 EN 60730-2-6	cURus ENEC
(alternate)	Sensata	20PS (+)	Rated 2.9FLA, 15LRA, 375VA pilot duty, 240V. autoreset	UL873 and CSA C22.2 No. 24	cURus
(alternate)	Ranco	G-235112	230V/8.3FLA/39LR A	UL873 and CSA C22.2 No. 24	cURus

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Clause	Requirement + Test		Result - Remark	Verdict	

(alternate)	Robertshaw	MG27(+)	240V/8FLA/48LRA	UL873 and CSA C22.2 No. 24	cURus
(alternate)	Robertshaw	MG27(+)	480V/4FLA/24LRA	UL873 and CSA C22.2 No. 24	cURus
(alternate)	Sensata	26PS1(+)	240V/8FLA/48LRA	UL873 and CSA C22.2 No. 24	cURus
(alternate)	Sensata	45PS1(+)	480V/4FLA/24LRA	UL873 and CSA C22.2 No. 24	cURus
(alternate)	Rugao Isen Electronic	PS1(+)	240V, 6FLA, 36LRA	UL873 and CSA C22.2 No. 24	cURus

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Clause	Requirement + Test	Result - Remark	Verdict		

		1			
High Pressure Switch	Sensata	29PSL012(+)	Rated 8A, 240Vac, 558 psig	UL873 and CSA C22.2 No. 24	cURus
				EN 60730-2-6	ENEC
(alternate)	Sensata	PS80 (+)	Rated 8A, 240V, 418 psig. Autoreset	UL873 and CSA C22.2 No. 24	cURus
			Autoreset	EN 60730-2-6	ENEC
(alternate)	Sensata	20PS (+)	Rated 2.9FLA, 15LRA, 375VA pilot duty, 240V. autoreset	UL873 and CSA C22.2 No. 24	cURus
(alternate)	Wilspec	HS200(+)	240Vac, 2.9FLA, 17.4LRA, 375VA pilot duty, 2.9A resistive. Autoreset	UL873 and CSA C22.2 No. 24	cURus
Indoor Coil - model (E/V)MRHRX120 AVA# only	Sanhua MCH	RH501	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX096 AVA# only	Sanhua MCH	RH500	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX072 AVT# only	Sanhua	AS-100792-22	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX066 AVT# only	Rheem	AS-100792-22	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX060 AVT# only	Rheem	AS-100792-22	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product

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Clause	Requirement + Test	Result - Remark	Verdict	

Indoor Coil - model only			1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX120 ANA# only	Sanhua MCH	RH501	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX102 ANA# only	Sanhua MCH	RH501	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX078 ANT# only	Sanhua MCH	RH508	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX066 ANT# only	Rheem	AS-100792-22	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX054 ANT# only	Rheem	AS-100792-22	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Indoor Coil - model (E/V)MRHRX042 ANT# only	Rheem	AS-100792-22	1860 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL207	N/A – evaluated as part of cULus listed end product
Blower motor - model (E/V)MRHRX120 AVA# only	Marathon	RQE56T17015 506# (Interchangea ble with *Q*56T17015 506#)	380V, 3~, 2 hp, 60 Hz, class F, IP10, 3.75 FLA, thermally protected	(1) UL1004-1, UL1004-7, (2) CSA C22.2 NO. 77 (3) IEC 60034-1, IEC 60034-5	(1) UR, (2) CSA, (3) CE

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Clause	Requirement + Test	Result - Remark	Verdict

Blower motor - model (E/V)MRHRX096 AVA# only	Marathon	RQE56T17015 506# (Interchangea ble with *Q*56T17015 506#) 5SME39SXL50	380V, 3~, 2 hp, 60 Hz, class F, IP10, 3.75 FLA, thermally protected	(1) UL1004-1, UL1004-7, (2) CSA C22.2 NO. 77 (3) IEC 60034-1, IEC 60034-5 UL1004-1,	(1) UR, (2) CSA, (3) CE
Blower motor - model (E/V)MRHRX072 AVT# only	Genteq	22	8.34-11.0 and 4.9- 6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B, electronically protected	UL1004-7, and CSA C22.2 NO. 77	(E306123)
Blower motor - model (E/V)MRHRX066 AVT# only	Genteq	5SME39SXL50 22	115 and 230V, 8.34-11.0 and 4.9- 6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B, electronically protected	UL1004-1, UL1004-7, and CSA C22.2 NO. 77	cURus (E306123)
Blower motor - model (E/V)MRHRX060 AVT# only	Genteq	5SME39SXL50 22	115 and 230V, 8.34-11.0 and 4.9- 6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B, electronically protected	UL1004-1, UL1004-7, and CSA C22.2 NO. 77	cURus (E306123)
Blower motor - model (E/V)MRHRX120 ANA# only	Nidec	P63MZFFL- 1549	380-415V, 3 ph, 4.6 FLA, 3 hp, Class B insulation.	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Blower motor - model (E/V)MRHRX102 ANA# only	Nidec	P63MZFFL- 1549	380-415V, 3 ph, 4.6 FLA, 3 hp, Class B insulation.	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Blower motor - model (E/V)MRHRX078 ANT# only	Genteq	5SME39SXL50 22	115 and 230V, 8.34-11.0 and 4.9- 6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B, electronically protected	UL1004-1, UL1004-7, and CSA C22.2 NO. 77	cURus (E306123)

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Genteq	5SME39SXL50 22 5SME39SXL50 22	115 and 230V, 8.34-11.0 and 4.9- 6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B, electronically protected 115 and 230V, 8.34-11.0 and 4.9- 6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B,	UL1004-1, UL1004-7, and CSA C22.2 NO. 77 UL1004-1, UL1004-7, and CSA C22.2 NO. 77	cURus (E306123) cURus (E306123)
Genteq		protected		
Genteq	5SME39NXL5 010	208/230/277 V, 3/4 hp, 6.0/6.0/4.9 A, 50/60 Hz, 3~, 1050 rpm, 55C, inverter duty	Motor: UL1004-1 and CSA C22.2 NO. 100 Protection: UL 508C	cURus (E46035 and E100625)
Polyone Corp	M3700 or M6215	1.5 mm min thick. Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Premix Inc	2200-22 CR/SX	1.47 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
B.F Goodrich	CIM 190	1.47 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Georgio Gulf Chemicals	HH 2000	1.7 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Dow	Questra EA- 522 CD770278	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Dow	Questra EA- 522 CD781000	2.4 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Polyone Corp	PP FR 8-6	2.2 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Citadel Plastics	15S3304CC	2.5 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Spartech Polycom	FR4621-2E	3.0 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
H Muehlstein & Co. Inc.	PP-3582-9000	2.5 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
Rogers Engineering	RS22-115	2.6 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
	Genteq  Genteq  Polyone Corp  Premix Inc  B.F Goodrich  Georgio Gulf Chemicals  Dow  Dow  Polyone Corp  Citadel Plastics  Spartech Polycom  H Muehlstein & Co. Inc.  Rogers	Genteq       5SME39SXL50         Genteq       5SME39SXL50         Genteq       5SME39NXL5         Polyone Corp       M3700 or M6215         Premix Inc       2200-22 CR/SX         B.F Goodrich       CIM 190         Georgio Gulf Chemicals       HH 2000         Dow       Questra EA-522 CD770278         Dow       Questra EA-522 CD7781000         Polyone Corp       PP FR 8-6         Citadel Plastics       15S3304CC         Spartech Polycom       FR4621-2E         H Muehlstein & Co. Inc.       PP-3582-9000         Rogers       RS22-115	Senteq   SSME39SXL50   22   S.34-11.0 and 4.9-6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B, electronically protected   SSME39SXL50   115 and 230V, 8.34-11.0 and 4.9-6.7 FLA, 1 hp, 50/60Hz, 700-1070 rpm, 3~, class B, electronically protected   SSME39NXL5   208/230/277 V, 3/4 hp, 6.0/6.0/4.9 A, 50/60 Hz, 3~, 1050 rpm, 55C, inverter duty   Some states of the s	Same   Same

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(alternate)	Industrial Dielectics Inc	E5V-204	2.5 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Interplastic Corp Molding	1001ZZC	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Citadel Plastics	15E3252CC or 15S3304DC	3.0 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Premix	2006-(+)-CR- SX	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Premix	2007-(+)-CR- SX	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Polymer Resources	ABS FR	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	RTP Co.	RTP 199 x 130531M	3.0 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Citadel Plastics	15S3304CC	2.46 mm min thi Rated V-0, 5VA ck	UL94 and CSA C22.2 NO. 0.17	cURus
Thermal insulation	Any	Any UL classified insulation	Rated max 25/50 flame spread/smoke developed indexes. Adhesive may be used but is not relied upon for retention. Material retention by mechanical fastening	UL723	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Condensing Sect	tion:				
Compressor - model (E/V)MRHRX120 AVA# only	Copeland	ZP104KCE-TF7	380V, 3~, 60 Hz, 135 LRA, 21.4 Imax, IP21, R410a	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
	Copeland		380V, 3~, 60 Hz, 94.3 LRA, 16.6 Imax, IP21, R410a	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate	cURus,
Compressor - model (E/V)MRHRX096 AVA# only		ZP76KCE-TF7		provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	
	Copeland		380V, 3~, 60 Hz, 83 LRA, 16 Imax, IP21, R410a	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2.	cURus,
Compressor - model (E/V)MRHRX072 AVT# only		ZP61K5E-TF7		CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	
	Copeland		380V, 3~, 60 Hz, 83 LRA, 12.0 Imax, IP21, R410a	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate	cURus,
Compressor - model (E/V)MRHRX066 AVT# only		ZP57K5E-TF7		provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	

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Clause	Requirement + Test	Result - Remark	Verdict

	Copeland		380V, 3~, 60 Hz, 66 LRA, 11.0 Imax, IP21, R410a	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2.	cURus,
Compressor - model (E/V)MRHRX060 AVT# only		ZP49K5E-TF7		CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	
Compressor - model (E/V)MRHRX120 ANA# only	Copeland	ZP122KCE- TFD	380-420V, 3~, 50 Hz, 127.0-139.0 LRA, 21.6 Imax, IP21, R410a	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
Compressor - model (E/V)MRHRX102 ANA# only	Copeland	ZP104KCE- TFD	Rated 380-420V, 3 ph, 50Hz, 128.0- 116.0 LRA, 14.7 IMAX	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
Compressor - model (E/V)MRHRX078 ANT# only	Copeland	ZP91KCE-TFD	Rated 380-420V, 3 ph, 50Hz, 101.0- 90.5 LRA, 13.0 IMAX	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
Compressor - model (E/V)MRHRX066 ANT# only	Copeland	ZP61K5E-TFD	Rated 380-420V, 3 ph, 50Hz, 67.1 LRA, 11.0 Imax	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,

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Clause	Requirement + Test	Result - Remark	Verdict

Compressor - model (E/V)MRHRX054 ANT# only	Copeland	ZP54K6E-TFD	Rated 380-420V, 3ph, 50Hz, 47.0- 51.5 LRA, 10.3 Imax	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2	cURus, CE
Compressor - model (E/V)MRHRX042 ANT# only	Copeland	ZP42K5E-TFD	Rated 380-420V, 3ph, 50Hz, 39/43 LRA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2; CB cert (no mark) for IEC 60335-1 and IEC 60335-2-34	cURus,
Condenser fan - model (E/V)MRHRX120 AVA# only	Genteq	5KCP39NFWE 85S	380V, 60 Hz, 1/3 hp, 1.7A, 1030 rpm, class F, thermally protected	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX096 AVA# only	Genteq	5KCP39KFBD4 8S	380V, 60 Hz, 1/5 hp, 0.8 A, 820 rpm, class B, thermally protected	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX072 AVT# only	Genteq	5SME39NSHN 079	380-400V / 380- 415V, 60/50 Hz, 1/2 hp, 2.5A, 300- 1200 rpm, class B, electronically protected	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX066 AVT# only	Genteq	5KCP39NGWE 79S	380V, 60 Hz, 1/3 hp, 1.4A, 1075 RPM, class F,	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX060 AVT# only	Genteq	5KCP39NGWE 79S	380V, 60 Hz, 1/3 hp, 1.4A, 1075 RPM, class F,	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX120 ANA# only	Genteq	5KCP39UFWG 13S	380-415V, 60/50 Hz, 3/4 hp, 2.3 A, 1100 RPM, class B,	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX102 ANA# only	Genteq	5KCP39NFU70 7AS	460/380-415V, 1.00A, 60/50 Hz, 1/3 hp, 1075 rpm, class B, thermally protected	UL 1004-3, CSA C22.2 N0. 77	UR, CSA

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Condenser fan - model (E/V)MRHRX078 ANT# only	Genteq	5SME39SSHN 000	460V, 60/50 Hz, 3/4 hp, 3.1A, 300- 1200 RPM, class B, electronically protected	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX066 ANT# only	Genteq	5SME39NSHN 079	380-400V / 380- 415V, 60/50 Hz, 1/2 hp, 2.5A, 300- 1200 rpm, class B, electronically protected	UL 1004-3, CSA C22.2 N0. 77	UR, CSA
Condenser fan - model (E/V)MRHRX054 ANT# only	Genteq	5KCP39PGBA2 4S	460/380-415V, 1.00A, 60/50 Hz, 1/3 hp, 1050 rpm, class B, thermally protected	UL 1004-3, CSA C22.2 NO. 77	UR, CSA
Condenser fan - model (E/V)MRHRX042 ANT# only	Genteq	5KCP39PGBA2 4S	460/380-415V, 1.00A, 60/50 Hz, 1/3 hp, 1050 rpm, class B, thermally protected	UL 1004-3, CSA C22.2 NO. 77	UR, CSA
Expansion valve	Emerson	BNE(+)	700 psig design pressure. Thermal type.	UL207	UR
(alternate)	Parker Hannifin (Sporlan)	BBIZE(+)	700 psig design pressure. Thermal type.	UL207, CSA C22.2 No. 140.3	cURus
Filter Drier	Parker-Hannifin	700	540 psig design pressure	UL207, CSA C22.2 No. 140.3	UR
(alternate)	Parker Hannifin	CW-083-S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus and CSA
(alternate)	Alco(Emerson)	BFK-16(@)(+)	600 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus and CSA
(alternate)	Parker Hannifin	C-053S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Parker Hannifin	C-083S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Parker Hannifin	C-163S, -165S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Alco(Emerson)	EK(+)	680 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Alco(Emerson)	ADK(+)	680 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Parker	735	600 psig design pressure	UL207	UR
(alternate)	Alco(Emerson)	BFK(@@)(+)	680 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Chatleff	5320	550 psig design pressure	UL207	UR

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(alternate)	TSI Technologies	HF20R-L-3B- 00	720 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	TSI Technologies	HF20R-L-3A- 00	660 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Zhejiang Sanhua	DTG (+)	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Zhejiang Sanhua	STG (+)	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
Outdoor Coil - model (E/V)MRHRX120 AVA# only	Sanhua MCH	RH04-4	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX096 AVA# only	Sanhua MCH	RH03-2	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX072 AVT# only	Rheem	AS-106760-01	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX066 AVT# only	Rheem	AS-106760-01	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX060 AVT# only	Rheem	AS-106760-01	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX120 ANA# only	Sanhua MCH	RH04-4	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX102 ANA# only	Sanhua MCH	RH03-3	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX078 ANT# only	Sanhua MCH	RH14-1	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product

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Outdoor Coil - model (E/V)MRHRX066 ANT# only	Rheem	AS-106760-01	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX054 ANT# only	Rheem	AS-106760-01	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Outdoor Coil - model (E/V)MRHRX042 ANT# only	Rheem	AS-106760-01	2370 psig minimum ultimate strength.	UL1995 and CSA C22.2 No. 236 or UL 207	N/A – evaluated as part of cULus listed end product
Compressor cover (optional)	Any	Any	Any HB rated material may be applied over the compressor housing for sound dampening purposes	UL94	UR
Accumulator (optional)	Refrigeration Research	MN	Rated 450 psig design pressure. Acceptance based on US requirement of 5x design pressure for ultimate strength, per 3x requirement in annex EE the allowed working pressure would be 750 psig	UL207, CSA C22.2 no. 140.3	cULus
(alternate)	Parker Hannifin	PA5083 PA3060	Rated 355 psig design pressure. Acceptance based on US requirement of 5x design pressure for ultimate strength, per 3x requirement in annex EE the allowed working pressure would be 591 psig	UL207, CSA C22.2 no. 140.3	cULus

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Receiver (optional)	Parker Hannifin	PR-35(+) PR35083-(+)	Rated 500 psig Rated 600 psig See above note on acceptance of pressures by US design pressure testing at 5x the design pressure.	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Alco	ALLS(+) ACC (+)	Rated 500 psig. See above note on acceptance of pressures by US design pressure testing at 5x the design pressure.	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	KMP	VCC (+)	Rated 400 psig. See above note on acceptance of pressures by US design pressure testing at 5x the design pressure.	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Zhejiang Shanhua	JYQ (+)	700	UL207, CSA C22.2 no. 140.3	cURus
Muffler (optional)	Parker Hannifin	1638 (+)	500 psig design pressure	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Parker Hannifin	CDF-1500	500 psig	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Parker Hannifin	PR25083(+)	600 psig	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Spinco	162 159	500 psig 520 psig	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Virginia KMP	740 (SMGT2)	440 psig	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Emerson	600	600 psig	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Emerson	APD-054S(+) (SNOY)	680 psig	UL207, CSA C22.2 no. 140.3	cURus
Muffler/Check Valve (optional)	A-1 Components	MSM-11 (SFJQ2)	560 psig	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Sherwood-Harsco	900RGN (SFJQ2)	700 psig	UL207, CSA C22.2 no. 140.3	cURus
(alternate)	Mueller	A18051, A17935 (SFJQ2)	700 psig	UL207, CSA C22.2 no. 140.3	cURus

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Distributors (optional)	Xinchang Hua Yi	FPQZ(+)	3770 ultimate strength	UL207, CSA C22.2 no. 140.3	cURus
Bushings	Any	Any	Any UL Listed (NZMT) or Recognized (NZMT2) bushings to be used when wiring passes through sheet metal	UL635	UL or UR

<sup>1)</sup> Provided evidence ensures the agreed level of compliance. See OD-CB2039.

28.1	TABLE: Thread	led part torque test			Р	
Threaded p	art identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torqu	e (Nm)	
Ground lug		6,21	II	2,71 (+) (++)		
Field wiring compartment securement screw		4,11	II	2,71(+) (-	++)	

- (+) Per reference project 4787378268
- (++) 0,8 N\*m required for the Ground Lug and 1,8 N\*m for the Field wiring compartment securement screw, but 2,71 minimum measurable by meter.

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Clause	Requirement + Test			Result	t - Remark		Verdict								
29.1	TABLE: Clearances	ABLE: Clearances													
	Overvoltage category	vervoltage category: II													
	Type of insulation:														
Rated impulse voltage (V)	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforce (mm)	Functional (mm)	Verdict  N/A  N/A  N/A	/ Remark								
330	0,2* / 0,5 / 0,8**	N/A	N/A	N/A	N/A	N/A									
<del>500</del>	0,2* / 0,5 / 0,8**	N/A	N/A	N/A	N/A	N/A									
800	0,2* / 0,5 / 0,8**	N/A	N/A	N/A	N/A	N/A									
<del>1 500</del>	0,5 / 0,8** / 1,0***	N/A	N/A	N/A	N/A	N/A									
2 500	<del>1,5</del> / 2,0***	4,05+ 10.36+ +	8,05+ 20.05++	N/A	9,12+ 7.00++		Р								
4 000	3,0 / 3,5***	N/A	N/A	11,01+ 16.60+			Р								
6-000	5,5 / 6,0***	N/A	N/A	N/A	N/A	N/A									
8-000	8,0 / 8,5***	N/A	N/A	N/A	N/A	N/A									
<del>10 000</del>	11,0 / 11,5***	N/A	N/A	N/A	N/A	N/A									

<sup>\*)</sup> 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

<sup>+</sup> Model EACDZS

<sup>++</sup> Model EACBZS

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29.2 TABLE:	Creep	age dis	tances,	rced i	nsulat	Р					
Working voltage (V)				eepage dis (mm) ollution de							
	1		2			3		Туре	of insu	lation	Verdict
		Ma	aterial g	roup	Ma	aterial g	roup				
		- 1	Ш	IIIa/IIIb	- 1	Ш	IIIa/IIIb*	B**	S**	R**	
<del>≤50</del>	0,18	<del>0,6</del>	<del>0,85</del>	<del>1,2</del>	<del>1,5</del>	<del>1,7</del>	<del>1,9</del>	N/A	_	_	N/A
<del>≤50</del>	0,18	<del>0,6</del>	<del>0,85</del>	<del>1,2</del>	<del>1,5</del>	<del>1,7</del>	<del>1,9</del>	_	N/A	_	N/A
<del>≤50</del>	0,36	<del>1,2</del>	1,7	<del>2,4</del>	<del>3,0</del>	3,4	3,8	_	_	N/A	N/A
<del>125</del>	0,28	<del>0,75</del>	<del>1,05</del>	<del>1,5</del>	<del>1,9</del>	<del>2,1</del>	<del>2,4</del>	N/A	_	_	N/A
<del>125</del>	0,28	0,75	<del>1,05</del>	<del>1,5</del>	<del>1,9</del>	<del>2,1</del>	<del>2,4</del>	_	N/A	_	N/A
<del>125</del>	0,56	<del>1,5</del>	2,1	3,0	3,8	4,2	4,8	_	_	N/A	N/A
250	0,56	<del>1,25</del>	<del>1,8</del>	<del>2,5</del>	<del>3,2</del>	<del>3,6</del>	4,0	4,05 +	_	_	Р
								10.3 6++			
250	0,56	<del>1,25</del>	1,8	<del>2,5</del>	<del>3,2</del>	<del>3,6</del>	4,0	_	8,05 +	_	Р
									20.0 5++		
250	<del>1,12</del>	<del>2,5</del>	<del>3,6</del>	<del>5,0</del>	<del>6,4</del>	<del>7,2</del>	<u>8,0</u>	_	_	11,0 1+	Р
										16.6 0++	
400	<del>1,0</del>	<del>2,0</del>	<del>2,8</del>	<del>4,0</del>	<del>5,0</del>	<del>5,6</del>	<del>6,3</del>	N/A	_	_	N/A
400	<del>1,0</del>	<del>2,0</del>	2,8	4,0	<del>5,0</del>	<del>5,6</del>	<del>6,3</del>	_	N/A	_	N/A
400	<del>2,0</del>	4,0	<del>5,6</del>	<del>8,0</del>	<del>10,0</del>	<del>11,2</del>	<del>12,6</del>	_		N/A	N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	N/A	_	_	N/A
500	1,3	<del>2,5</del>	<del>3,6</del>	<del>5,0</del>	6,3	<del>7,1</del>	8,0	_	N/A	_	N/A
500	<del>2,6</del>	<del>5,0</del>	<del>7,2</del>	<del>10,0</del>	<del>12,6</del>	<del>14,2</del>	<del>16,0</del>	_	_	N/A	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	<del>10,0</del>	N/A	_	_	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	_	N/A	_	N/A
>630 and ≤800	3,6	6,4	9,0	<del>12,6</del>	<del>16,0</del>	18,0	20,0	_	_	N/A	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	<del>11,0</del>	<del>12,5</del>	N/A	_		N/A
>800 and ≤1000	2,4	4,0	<del>5,6</del>	8,0	10,0	<del>11,0</del>	<del>12,5</del>		N/A	_	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

29.2 TABLE:	Creep	age dis	tances,	basic, su	uppleme	entary a	nd reinfo	rced i	nsulat	ion	Р
Working voltage (V)				eepage di (mm) ollution de						<u>.</u>	
	1		2			3		Туре	of insu	ılation	Verdict
		Ma	aterial g	roup	Ma	aterial g	roup				
		I	Ш	IIIa/IIIb	- 1	Ш	IIIa/IIIb*	B**	S**	R**	
>800 and ≤1000	4,8	<del>8,0</del>	<del>11,2</del>	<del>16,0</del>	<del>20,0</del>	<del>22,0</del>	<del>25,0</del>	_	_	N/A	N/A
<del>&gt;1000 and ≤1250</del>	3,2	<del>5,0</del>	<del>7,1</del>	<del>10,0</del>	<del>12,5</del>	<del>14,0</del>	<del>16,0</del>	N/A	_	_	N/A
>1000 and ≤1250	3,2	<del>5,0</del>	<del>7,1</del>	<del>10,0</del>	<del>12,5</del>	<del>14,0</del>	<del>16,0</del>	_	N/A	_	N/A
>1000 and ≤1250	<del>6,4</del>	<del>10,0</del>	<del>14,2</del>	<del>20,0</del>	<del>25,0</del>	28,0 32,0		_	_	N/A	N/A
>1250 and ≤1600	0 4,2 6,3 9,0 12,5		<del>12,5</del>	<del>16,0</del>	<del>18,0</del>	<del>20,0</del>	N/A	_	_	N/A	
>1250 and ≤1600	4,2	<del>6,3</del>	9,0	<del>12,5</del>	16,0 18,0 20		<del>20,0</del>	_	N/A	_	N/A
>1250 and ≤1600	8,4	<del>12,6</del>	<del>18,0</del>	<del>25,0</del>	<del>32,0</del>	<del>36,0</del>	40,0	_	_	N/A	N/A
>1600 and ≤2000	00 and ≤2000 5,6 8,0 11,0		<del>16,0</del>	20,0	<del>22,0</del>	<del>25,0</del>	N/A	_	_	N/A	
>1600 and ≤2000	<u>≤2000</u> 5,6 8,0		<del>11,0</del>	<del>16,0</del>	<del>20,0</del>	<del>22,0</del>	<del>25,0</del>	_	N/A	_	N/A
>1600 and ≤2000	11,2	<del>16,0</del>	22,0	<del>32,0</del>	40,0	44,0	<del>50,0</del>	_	_	N/A	N/A
<del>&gt;2000 and ≤2500</del>	<del>7,5</del>	<del>10,0</del>	14,0	<del>20,0</del>	<del>25,0</del>	<del>28,0</del>	<del>32,0</del>	N/A	_	_	N/A
<del>&gt;2000 and ≤2500</del>	<del>7,5</del>	<del>10,0</del>	<del>14,0</del>	<del>20,0</del>	<del>25,0</del>	<del>28,0</del>	<del>32,0</del>	_	N/A		N/A
<del>&gt;2000 and ≤2500</del>	<del>15,0</del>	<del>20,0</del>	<del>28,0</del>	40,0	<del>50,0</del>	<del>56,0</del>	64,0	_	_	N/A	N/A
>2500 and ≤3200	10,0	<del>12,5</del>	<del>18,0</del>	<del>25,0</del>	<del>32,0</del>	<del>36,0</del>	40,0	N/A	_	_	N/A
>2500 and ≤3200	10,0	<del>12,5</del>	<del>18,0</del>	<del>25,0</del>	<del>32,0</del>	<del>36,0</del>	40,0	_	N/A	_	N/A
>2500 and ≤3200	20,0	<del>25,0</del>	<del>36,0</del>	<del>50,0</del>	64,0	<del>72,0</del>	80,0	_	_	N/A	N/A
>3200 and ≤4000	12,5	<del>16,0</del>	22,0	<del>32,0</del>	40,0	45,0	<del>50,0</del>	N/A	_	_	N/A
>3200 and ≤4000	12,5	<del>16,0</del>	22,0	<del>32,0</del>	40,0	45,0	<del>50,0</del>	_	N/A	_	N/A
>3200 and ≤4000	<del>25,0</del>	<del>32,0</del>	44,0	<del>64,0</del>	80,0	90,0	100,0	_	_	N/A	N/A
>4000 and ≤5000	<del>16,0</del>	<del>20,0</del>	<del>28,0</del>	40,0	<del>50,0</del>	<del>56,0</del>	<del>63,0</del>	N/A	_	_	N/A
>4000 and ≤5000	<del>16,0</del>	<del>20,0</del>	28,0	40,0	<del>50,0</del>	<del>56,0</del>	63,0	_	N/A	_	N/A
>4000 and ≤5000	32,0	40,0	<del>56,0</del>	80,0	100,0	112,0	<del>126,0</del>	_	_	N/A	N/A
>5000 and ≤6300	20,0	<del>25,0</del>	<del>36,0</del>	<del>50,0</del>	<del>63,0</del>	<del>71,0</del>	80,0	N/A	_	_	N/A
>5000 and ≤6300	20,0	<del>25,0</del>	<del>36,0</del>	<del>50,0</del>	<del>63,0</del>	<del>71,0</del>	80,0	_	N/A	_	N/A
>5000 and ≤6300	40,0	<del>50,0</del>	<del>72,0</del>	<del>100,0</del>	<del>126,0</del>	142,0	<del>160,0</del>	_	_	N/A	N/A
>6300 and ≤8000	<del>25,0</del>	32,0	4 <del>5,0</del>	<del>63,0</del>	80,0	90,0	100,0	N/A	_	_	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

29.2 TAB	LE: Cree	page dis	tances,	basic, su	uppleme	entary a	nd reinfo	rced i	nsulat	ion	Р
Working voltag (V)	е			eepage di (mm) ollution de							
	1		2			3		Type of insulation			Verdict
		M	aterial g	roup	Ma	aterial g	roup				
		1	II	IIIa/IIIb	I	Ш	IIIa/IIIb*	B**	S**	R**	
>6300 and ≤800	<del>25,0</del>	32,0	<del>45,0</del>	<del>63,0</del>	80,0	90,0	<del>100,0</del>	_	N/A	_	N/A
> <del>6300 and ≤800</del>	50,0	64,0	90,0	<del>126,0</del>	<del>160,0</del>	180,0	<del>200,0</del>	_	_	N/A	N/A
>8000 and ≤100	00 32,0	40,0	<del>56,0</del>	80,0	<del>100,0</del>	110,0	<del>125,0</del>	N/A	_	_	N/A
>8000 and ≤100	00 32,0	40,0	<del>56,0</del>	80,0	<del>100,0</del>	00,0 110,0 125,0			N/A	_	N/A
>8000 and ≤100	00 64,0	80,0	112,0	<del>160,0</del>	200,0	220,0	<del>250,0</del>	_	_	N/A	N/A
>10000 and ≤125	<del>500</del> 4 <del>0,0</del>	50,0	<del>71,0</del>	100,0	<del>125,0</del>	140,0	<del>160,0</del>	N/A	_	_	N/A
>10000 and ≤125	<del>500</del> 40,0	50,0	<del>71,0</del>	100,0	125,0	140,0	<del>160,0</del>	_	N/A	_	N/A
>10000 and ≤125	<del>80,0</del>	100,0	142,0	<del>200,0</del>	<del>250,0</del>	280,0	320,0	_	_	N/A	N/A

 $<sup>^{*)}</sup>$ Material group IIIb is allowed if the working voltage does not exceed 50 V  $^{**)}$  B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation

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Clause	Requirement + Test	Result - Remark	Verdict

29.2 TABLE:	Creep	age dis	tances,	function	al insul	ation			Р
Working voltage (V)				eepage di (mm) ollution de				Verdict / Re	mark
	1		2			3			
		Ma	aterial g	roup	Ma	aterial gr	oup		
		I	Ш	IIIa/IIIb	I	Ш	Illa/IIIb*		
<del>≤10</del>	0,08	0,4	0,4	0,4	<del>1,0</del>	<del>1,0</del>	<del>1,0</del>	N/A	
<u>50</u>	0,16	0,56	0,8	1,1	1,4	<del>1,6</del>	<u>1,8</u>	1,92	
<del>125</del>	0,25	0,71	<del>1,0</del>	<del>1,4</del>	<del>1,8</del>	<del>2,0</del>	<del>2,2</del>	N/A	
<del>250</del>	0,42	<del>1,0</del>	<del>1,4</del>	<del>2,0</del>	<del>2,5</del>	2,8	<del>3,2</del>	N/A	
<u>400</u>	0,75	<del>1,6</del>	2,2	<del>3,2</del>	4,0	4,5	5,0	9,12	
<del>500</del>	<del>1,0</del>	<del>2,0</del>	<del>2,8</del>	4,0	<del>5,0</del>	<del>5,6</del>	<del>6,3</del>	N/A	
>630 and ≤800	1,8	<del>3,2</del>	4,5	<del>6,3</del>	8,0	9,0	<del>10,0</del>	N/A	
>800 and ≤1000	<del>2,4</del>	4,0	<del>5,6</del>	8,0	<del>10,0</del>	<del>11,0</del>	<del>12,5</del>	N/A	
>1000 and ≤1250	<del>3,2</del>	<del>5,0</del>	7,1	10,0	<del>12,5</del>	14,0	<del>16,0</del>	N/A	
>1250 and ≤1600	4,2	6,3	9,0	<del>12,5</del>	<del>16,0</del>	<del>18,0</del>	<del>20,0</del>	N/A	
>1600 and ≤2000	<del>5,6</del>	8,0	<del>11,0</del>	<del>16,0</del>	<del>20,0</del>	<del>22,0</del>	<del>25,0</del>	N/A	
>2000 and ≤2500	<del>7,5</del>	<del>10,0</del>	<del>14,0</del>	<del>20,0</del>	<del>25,0</del>	<del>28,0</del>	32,0	N/A	
>2500 and ≤3200	10,0	<del>12,5</del>	<del>18,0</del>	<del>25,0</del>	<del>32,0</del>	<del>36,0</del>	40,0	N/A	
>3200 and ≤4000	12,5	<del>16,0</del>	22,0	<del>32,0</del>	40,0	45,0	<del>50,0</del>	N/A	
>4000 and ≤5000	<del>16,0</del>	<del>20,0</del>	28,0	40,0	<del>50,0</del>	<del>56,0</del>	63,0	N/A	
>5000 and ≤6300	20,0	<del>25,0</del>	36,0	50,0	63,0	<del>71,0</del>	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	<del>56,0</del>	80,0	100,0	110,0	<del>125,0</del>	N/A	
>10000 and ≤12500	40,0	<del>50,0</del>	71,0	100,0	<del>125,0</del>	140,0	<del>160,0</del>	N/A	

 $<sup>^{\</sup>star)}$  Material group IIIb is allowed if the working voltage does not exceed 50 V

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Clause	Requirement + Test	Result - Remark	Verdict

30	TABLE: Resista	ance to he	eat and	fire																
Object/ part No.	Manufacturer/ trademark	Type/ model	1		essure te °C	est		Glow wire test (GWT) °C			VT)			Glow-wire flammability index (GWFI) °C				w- wire nition emp. WIT) °C	Needle- flame test (NFT)	Verdict
			75	125	cl. 11	cl. 19	550	6	50	7	50	850	550	650	750	850	675	775		
					+40	+25		te	ti	te	ti									
(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+	(+	(+	(+	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)	Р

Supplementary information: (+) Nonmetallic material use within the components identified in the critical component are to comply with the required resistance heat and fire.

<sup>&</sup>lt;sup>1)</sup> Parts of material classified at least HB40 or if relevant HBF <sup>2)</sup> Parts of material classified as V-0 or V-1

 $<sup>^{3)}</sup>$  Flame persisting longer than 2 s (= te - ti) need only be reported for unattended appliances  $^{4)}$  Surrounding parts subjected to the needle-flame test of annex E

<sup>&</sup>lt;sup>5)</sup> Base material classified as V-0 or if relevant VTM-0

<sup>&</sup>lt;sup>6)</sup> The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not applicable for attended appliances

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Clause	Requirement + Test		Result - Remark	Verdict		

Appendix EMF							N/A
	TEST: E	valuatio	on of the magnet	ic fields			N/A
Applied standards:	IEC 62233:2005, EN 62233:2008 (incl. Corr.1:2008)					N/A	
Method	Used m	ethod: 5	: 5.5.2 Time domain evaluation				_
Applied Limit	ICNIRP	Guidelin	nes		_		
Identification of the appliance		Type of appara	tus	N/A			
			Rated Voltage			N/A	
			Rated Frequence	су		N/A	
Parameters required	Parameters required prior to the test			bient Temperature	25 °C ± 10 °C		
			Supply Voltage		(R	ated Voltage ± 2	%) V
			Supply Frequency		(Rated Frequency ± 2 %) Hz		
Parameters recorded during the test			Laboratory Ambient Temperature N/A				
			Supply Voltage		N/A		
			Supply Freque	ncy	N/A		
Operating Mode							
Method 5.5.2							
Measuring Positio	ns	Measu	ring Distance	g Distance Coupling Factor		Measurement Uncertainty	
N/A			N/A	N/A	N/A		
Frequency (	(kHz)		Limi	t (%)	Measi	ured Maximum Va	alue (%)
0,01 to 400		100		N/A			

The measured maximum value in this table may be weighted with the coupling factor if applicable, and the measurement uncertainty is applied if the measured result is more than 75 % of the limit.

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Clause	Requirement + Test	Result - Remark	Verdict		
Photos: \$	See Attachment #2				

IEC 60335-2-40					
Clause	Requirement + Test	Result - Remark	Verdict		

## List of test equipment used:

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

Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Range used	Last Calibration date	Calibration due date	
See test equipment information in Attachment #4.						