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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

Report Number. ..... :	EE-18031890 EE-18031890 Modification 1 to EE-18021714
Date of issue ..... :	28 May 2018
Total number of pages ..... :	66 pages
Name of Testing Laboratory preparing the Report ..... :	Intertek Testing Services (Thailand) Ltd.
Applicant's name ..... :	Toshiba Carrier (Thailand) Co., Ltd.
Address ..... :	144/9 Moo5, Bangkadi Industrial Park, Tivanon Road, Tambol Bangkadi, Amphur Muang, Pathumthani 12000, Thailand.
Test specification:	
Standard ..... :	IEC 60335-2-40:2013/AMD1:2016 in conjunction with IEC 60335-1:2010/AMD1:2013
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60335_2_40L
Test Report Form(s) Originator .... :	VDE Prüf- und Zertifizierungsinstitut GmbH
Master TRF ..... :	Dated 2016-10

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

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Test item description .....:	Split Type Air Conditioners
Trade Mark .....:	TOSHIBA
Manufacturer.....:	Same as applicant
Model/Type reference .....:	**Indoor unit :** RAS-**PKVPG-E, RAS-**PKVPG-NZ (Where '**' can be **10**, 13 and 16) **Outdoor unit :** RAS-**PAVPG-E, RAS-**PAVPG-NZ (Where '**' can be **10**, 13 and 16)
Ratings .....:	220-240V~, 1 Phase, 50Hz Class I; R32 (See details in marking plates)

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Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	Intertek Testing Services (Thailand) Ltd.	
Testing location/ address ..... :		1285/5 Prachachuen Road, Wong-Sawang Sub-District, Bangsue District, Bangkok, 10800 THAILAND	
Tested by (name, function, signature) ..... :		Natthapon Raimanee Test Engineer	
Approved by (name, function, signature) .. :		Peerapon Sintuaus, Reviewer	
☐	**Testing procedure: CTF Stage 1:**	N/A	
Testing location/ address ..... :		N/A	
Tested by (name, function, signature) ..... :		N/A	
Approved by (name, function, signature) .. :		N/A	
☐	**Testing procedure: CTF Stage 2:**	N/A	
Testing location/ address ..... :		N/A	
Tested by (name + signature) ..... :		N/A	
Witnessed by (name, function, signature) . :		N/A	
Approved by (name, function, signature) .. :		N/A	
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**	N/A	
Testing location/ address ..... :		N/A	
Tested by (name, function, signature) ..... :		N/A	
Witnessed by (name, function, signature) . :		N/A	
Approved by (name, function, signature) .. :		N/A	
Supervised by (name, function, signature) :		N/A	

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List of Attachments (including a total number of pages in each attachment):
a) ATTACHMENT of EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES (17 Pages)
b) Unit picture (9 Pages)

Summary of testing:

Tests performed (name of test and test clause):

Clause 10	:	Power input and current
Clause 11	:	Heating
Clause 13	:	Leakage current and electric strength at operating temperature
Clause 16	:	Leakage current and electric strength
Clause 19	:	Abnormal operation
Clause 24	:	Components

All test result are referred to test report No. EE-18021714
date of issued 08 May 2018

Testing location:
Intertek Testing Services (Thailand) Ltd

Summary of compliance with National Differences:

List of countries addressed
- N/A

☒ **The product fulfils the requirements of**
- IEC 60335-1:2010+A1:2013
- IEC 60335-2-40:2013+A1:2016
- EN 60335-1:2012 + A11:2014
- EN 60335-2-40:2003 + A11:2004 + A12:2005 + A1:2006 + A2:2009 + A13:2012
- EN 62233:2008 (incl. Corr.1 : 2008)

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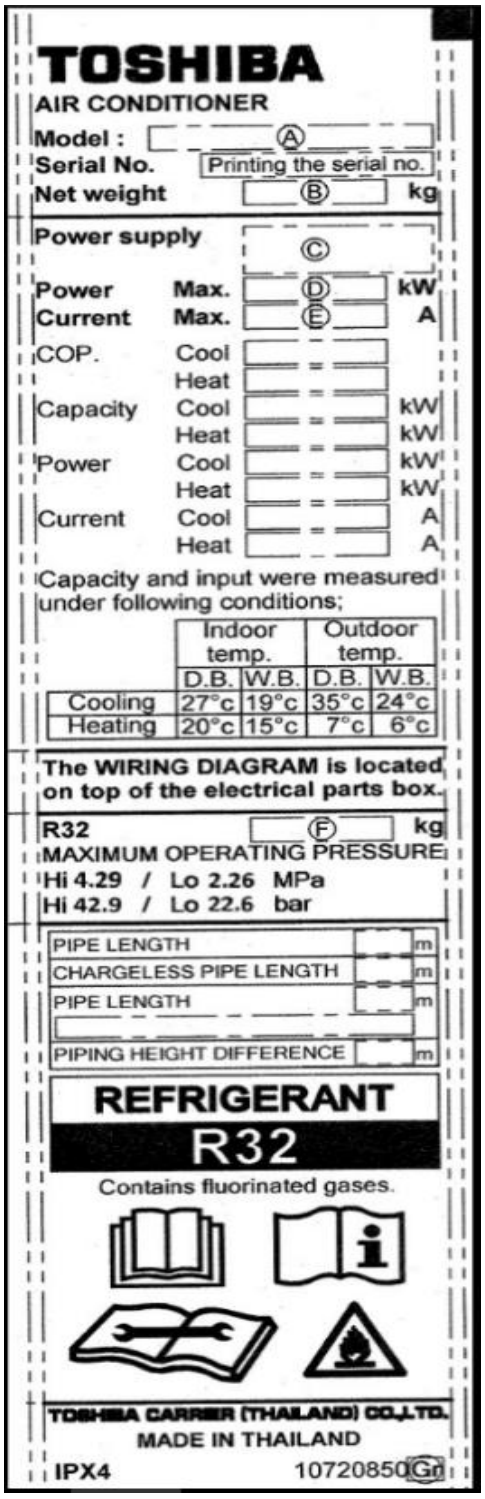
Copy of marking plate:



marking plate of outdoor units

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Information on marking plate of outdoor units:

A	B	C	D	E	F
RAS-13PAVPG-E	38	220-240V~ 50Hz	2.085	9.95	1.00
RAS-16PAVPG-E	38	220-240V~ 50Hz	2.135	10.45	1.00
RAS-13PAVPG-NZ	38	220-240V~ 50Hz	2.085	9.95	1.00
RAS-16PAVPG-NZ	38	220-240V~ 50Hz	2.135	10.45	1.00
Additional new model					
RAS-10PAVPG-E	**38**	**220-240V~ 50Hz**	**1.635**	**8.50**	**1.00**
RAS-10PAVPG-NZ	**38**	**220-240V~ 50Hz**	**1.635**	**8.50**	**1.00**

The maximum allowable length of the connecting pipe is up to 25 m.

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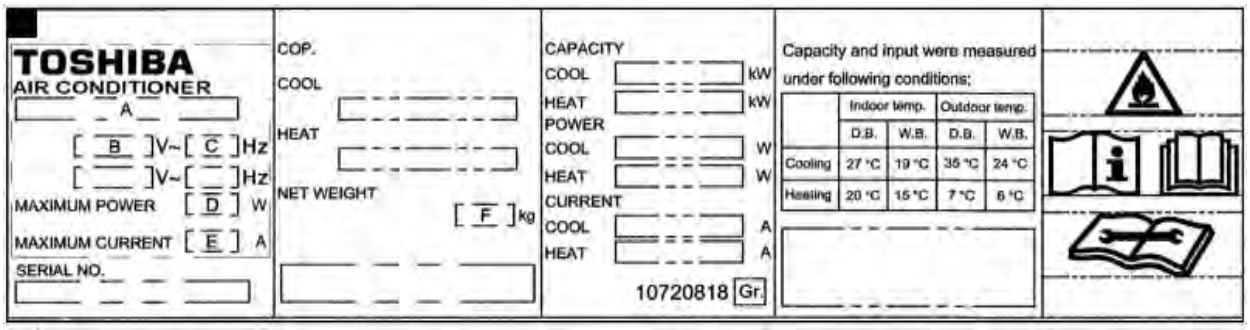
Copy marking plate (Cont'd) :

Type 1



Type 2

Information on marking plate of indoor units:

Type	A	B	C	D	E	F
1	RAS-13PKVPG-E	220-240V~	50Hz	14	35	-
	RAS-16PKVPG-E	220-240V~	50Hz	14	35	-
2	RAS-13PKVPG-NZ	220-240V~	50Hz	35	0.45	14
	RAS-16PKVPG-NZ	220-240V~	50Hz	35	0.45	14
Additional new model						
1	**RAS-10PKVPG-E**	**220-240V~**	**50Hz**	**14**	**35**	-
2	**RAS-10PKVPG-NZ**	**220-240V~**	**50Hz**	**35**	**0.45**	**14**

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Marking of flammable refrigerant:

The perpendicular height is minimum 30mm.

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Test item particulars ..... :	Split Type Air Conditioners
Classification of installation and use ..... :	Class I; Fixed appliance
Supply Connection ..... :	Set of terminals for connection to fixed wiring
..... :	
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement .....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing .....:	
Date of receipt of test item .....:	21 March 2018
Date (s) of performance of tests .....:	21 March - 25 April 2018

General remarks:

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The measurement uncertainty has been taken into consideration of the test results

This test report has to be read in conjunction with and is not valid without test report No. EE-18021714 date of issued 08 May 2018

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

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

Manufacturer's Declaration per sub-clause 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..... :	☐ **Yes** ☒ **Not applicable**

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

Name and address of factory (ies) .....: Same as applicant

General product information:

The products included in this report are split type air conditioners for Cooling function and Heating function. They are class I appliance, The indoor units are wall mounted type. The refrigerant used is R32.There are two versions based on manufacturer setting wire for main supply connection as following:

- The outdoor units are provided with set of terminals for connection to supply mains by fixed wiring. The

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indoor units are provided with terminals and to be connected to and supplied from outdoor units.

- The indoor units are provided with set of terminals for connected to supply mains by fixed wiring. The outdoor units are provided with terminals and to be connected to and supplied from indoor units.

The following models are included by this test report.

No.	Indoor Unit	Outdoor Unit	Power supply	Maximum rated		Refrigerant charge (kg)
				Power (kW)	Current (A)	
1.	RAS-13PKVPG-E	RAS-13PAVPG-E	220-240V~ 50Hz	2.085	9.95	1.00
2.	RAS-16PKVPG-E	RAS-16PAVPG-E	220-240V~ 50Hz	2.135	10.45	1.00
3.	RAS-13PKVPG-NZ	RAS-13PAVPG-NZ	220-240V~ 50Hz	2.085	9.95	1.00
4.	RAS-16PKVPG-NZ	RAS-16PAVPG-NZ	220-240V~ 50Hz	2.135	10.45	1.00
Additional new model						
5.	**RAS-10PKVPG-E**	**RAS-10PAVPG-E**	**220-240V~ 50Hz**	**1.635**	**8.50**	**1.00**
6.	**RAS-10PKVPG-NZ**	**RAS-10PAVPG-NZ**	**220-240V~ 50Hz**	**1.635**	**8.50**	**1.00**
The additional charged of refrigerant 20g/m required when piping length between 16m and 25m. Therefore, maximum refrigerant in system are 1.20 kg (For all outdoor unit)						

All models have the same construction, design and basic components used, except some components as in table 24. Due to different of capacity.

The outdoor unit model RAS-16PAVPG-E matching with indoor unit model RAS-16PKVPG-E was selected as representative samples for testing in this report

Additional information for safety test conditions:
- Appliances was tested at room temperature Indoor/outdoor (°C): 32/46 for cooling mode and 28/24 for heating mode

Modification1:
This test report is the modification to test report No. EE-18021714 date of issued 08 May 2018 due to modification as follows:

- Additional new model RAS-10PAVPG-E/ RAS-10PKVPG-E and RAS-10PAVPG-NZ/ RAS-10PKVPG-NZ which similar to model RAS-16PAVPG-E/ RAS-16PKVPG-E. The differences are only motor compressor used and some specification on marking plate for trading purpose.
- Update marking label of outdoor unit which additional maximum operating pressure in bar.

The component list table 24.1 has been updated in **Bold.**

By the above modification, additional test clause 10, 11, 13, 16, 19 and 24 are considered necessary for additional models which were performed on outdoor unit model RAS-10PAVPG-E matching with indoor unit models RAS-10PKVPG-E.

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
10	**POWER INPUT AND CURRENT**		—
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 .:	(see appended table)	P
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period. (IEC 60335-1:2010 (ed.5), am1)		N/A
	Otherwise the power input is the arithmetic mean value (IEC 60335-1:2010 (ed.5), am1)		P
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated power input is related to the arithmetic mean value		P
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2.....:	(see appended table)	P
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period. (IEC 60335-1:2010 (ed.5), am1)		N/A
	Otherwise the current is the arithmetic mean value. (IEC 60335-1:2010 (ed.5), am1)		P
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated current is related to the arithmetic mean value of the range		P
11	**HEATING**		—
11.1	No excessive temperatures in normal use (IEC 60335-2-40 (ed.5))		P
	Compliance is checked by the tests of annex C, if (IEC 60335-2-40 (ed.5)):		—
	- temperature of motor winding exceeds values shown in table 3 (IEC 60335-2-40 (ed.5))		N/A
	- there is doubt about classification of insulation system of the motor (IEC 60335-2-40 (ed.5))		N/A
11.2	Placing and mounting of appliance (IEC 60335-2-40 (ed.5)):		—

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- clearances to adjacent surfaces (IEC 60335-2-40 (ed.5));		P
	- flow rates for liquid source or sink equipment be minimum, except for hydronic fan coil units where flow rates and liquid temperatures be maximum (IEC 60335-2-40 (ed.5) ,am1);		P
	- static pressures (IEC 60335-2-40 (ed.5));		N/A
	- means of adjusting the flow, flow for tests be minimum obtainable (IEC 60335-2-40 (ed.5));		N/A
	- adjustable limit controls set at maximum cut-out setting and minimum differential (IEC 60335-2-40 (ed.5)).		P
	Appliances with supplementary heaters, use test casing of clause 11.9 (IEC 60335-2-40 (ed.5))		N/A
11.2.1	Appliances with supplementary heaters, inlet duct connected to inlet air opening (IEC 60335-2-40 (ed.5))		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 (ed.5))		N/A
11.2.2	Ducted appliance without supplementary heaters, air outlet used (IEC 60335-2-40 (ed.5))		N/A
11.2.3	For the evaluation and testing of partial units, the following test setup and conditions are to be applied. (IEC 60335-2-40 (ed.5) ,am1);		—
	- evaporator units and condenser units are tested as individual units at the maximum ambient temperature stated in the instructions. If not stated in the instructions, these units shall be tested at an ambient temperature that is equal to the saturated temperature of the refrigerant at the marked maximum allowable operating pressure (± 0,1 MPa) minus 10 K (± 1 K). (IEC 60335-2-40 (ed.5) ,am1);		N/A
	- condensing units are tested in the cooling mode only, at the maximum specified ambient temperature with 9 K (± 1 K) sub-cooling and the maximum specified evaporating pressure with 11 K (± 1 K) superheat. For condensing units provided with expansion device(s), the superheat/sub-cooling is to be as under the normal control of the expansion device(s). (IEC 60335-2-40 (ed.5) ,am1);		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- evaporating units, intended for cooling only, are tested in the cooling mode only with a condensing pressure that is equal to the marked maximum allowable operating pressure (± 0,1 MPa) with 9 K (± 1 K) sub-cooling. (IEC 60335-2-40 (ed.5) ,am1);		N/A
	- evaporating units that are intended for reverse cycle operation are tested in the heating mode only, at the maximum specified evaporating pressure. (IEC 60335-2-40 (ed.5) ,am1);		N/A
11.3	Temperature rise determine by thermocouples or resistance method (IEC 60335-2-40 (ed.5))		P
11.4	Test performed at supply voltage between 0,94 and 1,06 times the rated voltage (IEC 60335-2-40 (ed.5))		P
	Heating elements energized at voltage which gives an electrical input of 1,15 times maximum rated power input (IEC 60335-2-40 (ed.5))		N/A
11.5	Test conducted in heating mode and cooling mode, if both exist (IEC 60335-2-40 (ed.5))		P
	All supplementary heating elements operative simultaneously (IEC 60335-2-40 (ed.5))		N/A
11.6	Defrost test in most unfavourable conditions, if needed (IEC 60335-2-40 (ed.5))		N/A
11.7	Appliances operated continuously until steady conditions except for defrost tests (IEC 60335-2-40 (ed.5))		P
11.8	Temperatures not exceeding values of table 3 (IEC 60335-2-40 (ed.5))	(See appended tables)	P
	Protective devices do not operate (IEC 60335-2-40 (ed.5))		P
	Sealing compound not flowing out (IEC 60335-2-40 (ed.5))		P
	Temperature of air in outlet duct not exceed 90 °C (IEC 60335-2-40 (ed.5))		N/A
11.9	Test casing and installation of appliances in accordance with manufacturer's instructions (IEC 60335-2-40 (ed.5))		P
	Glass fibre insulation for appliances without indication of minimum clearances according to manufacturer; thermocouple in contact with enclosure (IEC 60335-2-40 (ed.5))		N/A
13	**LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE**		—

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1,15 times the rated power input (W).....:		N/A
	Motor-operated appliances and combined appliances supplied at 1,06 times the rated voltage (V).....:	254,4V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		P
13.2	For class 0, class II and class III appliances, and class II constructions, leakage current measured by means of the circuit described in figure 4 of IEC 60990 (IEC 60335-1 (ed.5), am1)		P
	For class 0I and class I appliances, a low impedance ammeter may be used (IEC 60335-1 (ed.5), am1)		N/A
	Leakage current measurements .....: (IEC 60335-1 (ed.5), am1)	(see appended table)	P
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4 .....:	(see appended table)	P
	No breakdown during the tests		P
16	**LEAKAGE CURRENT AND ELECTRIC STRENGTH**		—
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		P
	Tests carried out at room temperature and not connected to the supply		P
16.2	Single-phase appliances: test voltage 1,06 times rated voltage (V).....:	254,4V	P
	Three-phase appliances: test voltage 1,06 times rated voltage divided by √3 (V) .....:		N/A
	Leakage current measurements .....: (IEC 60335-2-40 (ed.5))	(see appended table)	P
	Limit values doubled if:		—
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		N/A
	- the appliance has radio interference filters		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	With the radio interference filters disconnected, the leakage current do not exceed limits specified .....:	(see appended table)	N/A
16.3	Electric strength tests according to table 7 .....:	(see appended table)	P
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified .....:	(see appended table)	N/A
	No breakdown during the tests		P
19	**ABNORMAL OPERATION**		—
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated.		P
	Failure of transfer medium flow, or of any control device, does not result in a hazard (IEC 60335-2-40 (ed.5))		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe (electric shock, fire or mechanical hazard, dangerous malfunction)		P
	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 (ed.5))		P
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable		P
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		P
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		N/A
	until steady conditions are established		P
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample		N/A
19.2	Test of appliances with supplementary heaters (IEC 60335-2-40 (ed.5))		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 (ed.5))		N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited	(see appended table)	P

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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 (ed.5))		P
19.5	Test of 19.4 repeated on class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath		N/A
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		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		N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		N/A
	The working voltage of the PTC heating element is increased by 5 % and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1,5 times working voltage or until the PTC heating element ruptures (V).....:		N/A
19.7	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 (ed.5))		P
	Insulation of motor windings (IEC 60335-2-40 (ed.5)) .....:	Class E	P
	Temperature of enclosure does not exceed (°C) (IEC 60335-2-40 (ed.5)) .....:	(See appended table)	P
	Temperature of the windings does not exceed the values shown in the table 8; temperature (°C) (IEC 60335-2-40 (ed.5)) .....:	Class E (See appended table)	P
	Electric strength test as specified in 16.3, 72 h after the beginning of the test (IEC 60335-2-40 (ed.5))		P
	At the end, leakage current between windings and enclosure does not exceed 2 mA (IEC 60335-2-40 (ed.5))		P
	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 (ed.5))		P

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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 (ed.5))		P
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 (ed.5))		P
19.10	Series motor operated at 1,3 times rated voltage for 1 min (V).....:		N/A
	During the test, parts not being ejected from the appliance		N/A
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless		P
	they comply with the conditions specified in 19.11.1		P
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless		P
	restarting does not result in a hazard		P
	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		P
	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		P
	During and after each test the following is checked:		—
	- the temperature of the windings do not exceed the values specified in table 8		P
	- the appliance complies with the conditions specified in 19.13		P
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4		P
	If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided both of the following conditions are met:		—
	- the base material of the printed circuit board withstands the test of annex E		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29		N/A
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions:		—
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified		P
	- 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		P
19.11.2	Fault conditions applied one at a time, the appliance operating under conditions specified in clause 11, but supplied at rated voltage, duration of the tests as specified:		—
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29		N/A
	b) open circuit at the terminals of any component		P
	c) short circuit of capacitors, unless		P
	they comply with IEC 60384-14		P
	d) short circuit of any two terminals of an electronic component, other than integrated circuits		P
	This fault condition is not applied between the two circuits of an optocoupler		P
	e) failure of triacs in the diode mode		N/A
	f) failure of microprocessors and integrated circuits		P
	g) failure of an electronic power switching device		N/A
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made		P
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		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 (ed.5))		P
	Appliances having a device with an off position obtained by electronic disconnection, or		N/A
	a device that can be placed in the stand-by mode,		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode.		N/A
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to 19.11.4.7. (IEC 60335-2-40 (ed.5))		P
	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 (ed.5))		P
	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 (ed.5))		P
	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 (ed.5))		P
	Surge protective devices disconnected, unless		P
	they incorporate spark gaps		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 (ed.5))		P
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		P
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3		P
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		P
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		P
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode (IEC 60335-1 (ed.5), am1)		P
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling (IEC 60335-1 (ed.5), am1)		P
	Earthed heating elements in class I appliances disconnected		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		P
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		P
	Appliances having a rated current exceeding 16 A are subjected to the class 3 voltage dips and interruptions in accordance with IEC 61000-4-34		N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		P
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 (ed.5))		P
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).....:	Measured current >10A ; Rated current 3.15A,	P
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9 .....:	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		P
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		—
	- basic insulation (V).....:	1000V	P
	- supplementary insulation (V).....:	1750V	P
	- reinforced insulation (V) .....:	3000V	P
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage		P
	The appliance does not undergo a dangerous malfunction, and		P

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Clause	Requirement + Test	Result - Remark	Verdict
	no failure of protective electronic circuits, if the appliance is still operable		P
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		—
	- do not become operational, or		N/A
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		N/A
	If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that:		—
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
	- the appliance does not start after the cycle in which the interlock was released		N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited		P
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		P
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		P
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		P
	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 (ed.5))		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 (ed.5))		N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied		N/A
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 (ed.5))		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test of appliance with heat transfer flow of the indoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40 (ed.5))		P
	Disconnection of motor common to both the outdoor and the indoor heat exchangers when reaching steady conditions (IEC 60335-2-40 (ed.5))		N/A
19.102	Test of appliances using water as heat transfer medium (IEC 60335-2-40 (ed.5))		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 (ed.5))		P
	Test with the dry-bulb temperature 10 K over the values specified by manufacturer (IEC 60335-2-40 (ed.5))		P
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 (ed.5))		N/A
	During test temperature not exceed 150 °C but an overshoot of 25 °C is permitted during first hour (IEC 60335-2-40 (ed.5))		N/A
	Thermal protective devices are allowed to operate. (IEC 60335-2-40 (ed.5))		N/A
24	**COMPONENTS**		—
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components .....:	(see appended table)	P
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance (IEC 60335-1:2010 (ed.5), am1)		N/A
	Relays tested as part of the appliance, or (IEC 60335-1:2010 (ed.5), am1)		P
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1 (IEC 60335-1:2010 (ed.5), am1)		N/A
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance (IEC 60335-1:2010 (ed.5), am1)		P
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard (IEC 60335-1:2010 (ed.5), am1)		P

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Clause	Requirement + Test	Result - Remark	Verdict
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections (IEC 60335-1:2010 (ed.5), am1)		P
	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2 (IEC 60335-1:2010 (ed.5), am1)		P
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met (IEC 60335-1:2010 (ed.5), am1)		P
	If these conditions are not satisfied, the component is tested as part of the appliance. (IEC 60335-1:2010 (ed.5), am1)		N/A
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance (IEC 60335-1:2010 (ed.5), am1)		P
	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		P
	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		P
	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		P
	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		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		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 (ed.5))		P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
	If the capacitors have to be tested, they are tested according to annex F		N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16 (IEC 60335-1:2010 (ed.5), am1)		P
	Safety isolating transformers complying with IEC 61558-2-6		N/A
	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		N/A
	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 the relevant part 2. The number of cycles of operation being at least:		—
	- thermostats:..... 10 000		N/A
	- temperature limiters: 1 000		N/A
	- self-resetting thermal cut-outs: 300		N/A
	- voltage maintained non-self-resetting thermal cut-outs: 1 000		N/A
	- other non-self-resetting thermal cut-outs: 30		N/A
	- timers:.....3 000		N/A
	- energy regulators: 10 000		N/A
	- thermostats which control motor-compressor (IEC 60335-2-40 (ed.5)): 100 000	Electronic thermostat Relay: 100000 cycles	P
	- motor-compressor starting relays (IEC 60335-2-40 (ed.5)): 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 (ed.5)): .....min 2000	Hermetic compressor	N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- manual reset thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC 60335-2-40 (ed.5)): . 50	Compressor	P
	- other automatic thermal motor-protectors (IEC 60335-2-40 (ed.5)): 2000		N/A
	- other manual reset thermal motor-protectors (IEC 60335-2-40 (ed.5)): 30	Indoor fan motor and Outdoor fan motor	P
	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		N/A
	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		N/A
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9 (IEC 60335-1 (ed.5), am1)		P
24.1.5	Appliance couplers complying with IEC 60320-1		N/A
	However, for appliances classified higher than IPX0, the appliance couplers complying with IEC 60320-2-3		N/A
	Interconnection couplers complying with IEC 60320-2-2		N/A
cked24.1.6	Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable		N/A
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		N/A
24.1.8	The relevant standard for thermal links is IEC 60691		N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of clause 19		N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		P
	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.....:		P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
24.2	Appliances not fitted with:		—
	- switches or automatic controls in flexible cords		N/A
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		P
	- thermal cut-outs that can be reset by soldering, unless		N/A
	the solder has a melding point of at least 230 °C		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		N/A
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		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		N/A
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		N/A
	In addition, the motors comply with the requirements of annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		N/A
	They are supplied with the appliance		N/A
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set		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		N/A
	One or more of the following conditions are to be met:		—
	- the capacitors are of class P2 according to IEC 60252-1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- the capacitors are housed within a metallic or ceramic enclosure		N/A
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm		N/A
	- 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 (ed.5))		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

10.1	TABLE: Power input deviation				P
Input deviation of/at:	P rated (W)	P measured (W)	Δ P	Required Δ P	Remark
Outdoor unit model RAS-10PAVPG-E matching with indoor unit model RAS-10PKVPG-E					
220V 50Hz	--	794,9	--	--	Cooling Mode
230V 50Hz	1635	791,7	-51,6%	+15%	Cooling Mode
240V 50Hz	--	790,0	--	--	Cooling Mode
220V 50Hz	--	1231,5	--	--	Heating Mode
230V 50Hz	1635	1226,6	-25,0%	+15%	Heating Mode
240V 50Hz	--	1222,7	--	--	Heating Mode
Supplementary information:					

10.2	TABLE: Current deviation				P
Current deviation of/at:	I rated (A)	I measured (A)	Δ I	Required Δ I	Remark
Outdoor unit model RAS-10PAVPG-E matching with indoor unit model RAS-10PKVPG-E					
220V 50Hz	--	3,86	--	--	Cooling Mode
230V 50Hz	8,5	3,72	-56,2%	+15%	Cooling Mode
240V 50Hz	--	3,59	--	--	Cooling Mode
220V 50Hz	--	5,83	--	--	Heating Mode
230V 50Hz	8,5	5,57	-34,5%	+15%	Heating Mode
240V 50Hz	--	5,36	--	--	Heating Mode
Supplementary information:					

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

11.8	TABLE: Heating test, thermocouples			P
	Mode of operation	Cooling mode	Heating mode	
	Test voltage (V)……..:	254,4 (50Hz)	254,4 (50Hz)	—
	Ambient, t_1 (°C) ……..:	32/46 (Indoor/outdoor)	28/24 (Indoor/outdoor)	
	Ambient, t_2 (°C) ……..:	32/46 (Indoor/outdoor)	28/24 (Indoor/outdoor)	—
Thermocouple locations		T (°C)	T (°C)	T (°C)
Outdoor unit model RAS-10PAVPG-E matching with indoor unit model RAS-10PKVPG-E				
Model RAS-10PKVPG-E (Indoor unit)				
Insulation of supply cord		33,3	30,2	75
Terminal block		33,9	30,5	85
Internal wire to PCB.		36,5	33,6	75
Capacitor (C03) on PCB. [T=105ºC]		36,6	33,8	105
Capacitor (C122) on PCB. [T= 105ºC]		41,0	41,4	105
Line filter (L01) on PCB.		40,6	37,6	90
SW. transformer (T101) on PCB.		41,7	40,8	90
Ambient of Relay (RY01) on PCB.		38,4	35,2	Ref.
PCB.		39,5	37,7	145
Internal wire to fan motor		36,2	33,9	75
Fan motor winding		44,8	46,5	105
Fan motor enclosure		43,8	45,2	Ref.
Internal wire to stepping motor 1		35,2	32,2	75
Stepping motor 1 winding		36,5	33,6	90
Stepping motor 1 enclosure		35,4	32,8	Ref.
Internal wire to stepping motor 2		34,2	33,7	75
Stepping motor 2 winding		33,7	37,4	90
Stepping motor 2 enclosure		33,6	35,7	Ref.
Cover fan motor		35,3	36,6	Ref.
Wall		26,6	39,7	90
External enclosure		32,4	29,6	85
Middle of refrigerant coil		24,1	46,9	Ref.
Inlet of refrigerant pipe		21,7	52,2	Ref.

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Clause	Requirement + Test	Result - Remark	Verdict

Outlet of refrigerant pipe	19,1	75,4	Ref.
Air outlet	20,0	55,0	Ref.
Model RAS-10PAVPG-E (Outdoor unit)			
Terminal Block	46,0	23,3	85
Internal wire to PCB.	47,5	24,1	75
Capacitor (C08) on PCB. [T=85 ºC]	55,3	35,8	85
Capacitor (C106) on PCB. [T=105 ºC]	58,0	37,2	105
Capacitor (C01) on PCB. [LE 105]	48,1	26,9	Ref.
Ambien of Relay (RY01) on PCB.	56,4	36,0	Ref.
Line filter (L01) on PCB.	51,3	32,1	90
SW. transformer (T101) on PCB.	56,1	33,6	90
PCB.	58,4	38,9	145
Internal wire to Reactor	51,8	33,8	75
Reactor	62,7	52,8	90
Internal wire to fan motor	51,3	18,3	75
Fan motor winding	56,9	21,1	105
Fan motor enclosure	55,7	19,6	Ref.
Internal wire to Compressor	52,0	36,1	75
Compressor enclosure	81,5	87,1	Ref.
Discharge refrigerant pipe	83,1	87,5	Ref.
Middle of refrigerant coil	52,8	16,7	Ref.
Suction refrigerant pipe	20,9	16,8	Ref.
4 way valve	55,0	69,9	90
Wall	46,4	23,2	90
External enclosure	47,2	26,2	85
Air outlet	52,6	16,8	Ref.
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

11.8	TABLE: Heating test, resistance method			P
	Mode of operation	Cooling mode	Heating mode	
	Test voltage (V) .....:	254,4 (50Hz)	254,4 (50Hz)	—
	Ambient, t_1 (°C) .....:	32/46 (Indoor/outdoor)	28/24 (Indoor/outdoor)	—
	Ambient, t_2 (°C) .....:	32/46 (Indoor/outdoor)	28/24 (Indoor/outdoor)	—

Temperature of winding	R_1 (Ω)	R_2 (Ω)	T (°C)	Max. T (°C)	Insulation class
Model RAS-10PAVPG-E (Outdoor unit) Cooling mode					
Compressor winding 1	2,14	2,50	94,4	140	Synthetic
Compressor winding 2	2,12	2,44	89,6	140	Synthetic
Compressor winding 3	2,12	2,46	92,0	140	Synthetic
4-way valve	1,933k	1,992k	54,6	100	Class A
Reactor	0,34	0,46	69,3	100	Class A
Model RAS-10PAVPG-E (Outdoor unit) Heating mode					
Compressor winding 1	1,97	2,48	92,1	140	Synthetic
Compressor winding 2	1,97	2,46	89,2	140	Synthetic
Compressor winding 3	1,97	2,49	92,9	140	Synthetic
4-way valve	1,778k	2,172k	81,2	100	Class A
Reactor	0,40	0,44	53,4	100	Class A
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Clause	Requirement + Test	Result - Remark	Verdict

13.2	TABLE: Leakage current		P
	Heating appliances: 1,15 x rated input (W)……..…..:	--	—
	Motor-operated and combined appliances: 1,06 x rated voltage (V)……..…..:	254,4V	—

Leakage current between	I (mA)	Max. allowed I (mA)
Outdoor unit model RAS-10PAVPG-E matching with indoor unit model RAS-10PKVPG-E		
Live parts and earthed metal parts (Cooling mode)	1,6	3,5
Live parts and accessible non-metallic material parts (Cooling mode)	0,02	0,25
Live parts and earthed metal parts (Heating mode)	2,0	3,5
Live parts and accessible non-metallic material parts (Heating Mode)	0,02	0,25
Supplementary information:		

13.3	TABLE: Dielectric strength	P

Test voltage applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Live parts and earthed metal parts	1000	No
Parts separated by supplementary insulation	1750	No
Live parts and accessible non-metallic material parts	3000	No
Supplementary information:		

16.2	TABLE: Leakage current		P
	Single phase appliances: 1,06 x rated voltage (V):	254,4	—
	Three phase appliances 1,06 x rated voltage divided by √3 (V) ..... :	--	—

Leakage current between	I (mA)	Max. allowed I (mA)
Outdoor unit model RAS-10PAVPG-E matching with indoor unit model RAS-10PKVPG-E		
Live parts and earthed metal parts	0,22	3,5
Live parts and accessible non-metallic material parts	0,18	0,25
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Clause	Requirement + Test	Result - Remark	Verdict

16.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Live parts and earthed metal parts		1250	No
Parts separated by supplementary insulation		1750	No
Live parts and accessible non-metallic material parts		3000	No
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19	Abnormal operation conditions		P
Operational characteristics	YES/NO	Operational conditions	
Are there electronic circuits to control the appliance operation?	Yes.	Normal operation with electronic circuit control operation of component e.g. compressor.	
Are there “off” or “stand-by” position?	No.	Normal operating	
The unintended operation of the appliance results in dangerous malfunction?	No.	No mechanical hazard or dangerous malfunction	

Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	--	--	--	--	--	--	--
19.3	--	--	--	--	--	--	--
19.4	Stopping in any position by remote control and ON/OFF switch	operate in correct functions	--	--	--	--	No hazard
19.5	--	--	--	--	--	--	--
19.6	--	--	--	--	--	--	--
19.7	Fan motor is locked	protective devices operate	Electronic circuit in PCB operate	P	--	P	No hazard
	Compressor is Locked	Protective devices operate	Electronic circuit in PCB operate	P	--	P	No hazard
19.8	--	--	--	--	--	--	--
19.9	--	--	--	--	--	--	--
19.10	--	--	--	--	--	--	--
19.11.2	Open circuit and short circuit of component.	operate until steady conditions or stopped to operates	--	--	--	--	No hazard
19.11.4.8	--	--	--	--	--	--	--
19.10X	--	--	--	--	--	--	--
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19.7	**Abnormal operation conditions – Locked rotor test motor-compressor**		P
	Motor-compressor .....:	KTN110D42UFZ	
	Start device .....:	—	
	Protector .....:	—	
	Start capacitor .....:	—	
	Run capacitor .....:	—	
	Cooling; (static); (fan-m^3/h); (oil); .....:	—	
	Thermal motor-protection system .....:	—	

	Self-resetting				Manually reset
Rated voltage	Vn max (V)			Vn max (V)	Vn min (V)
	After 72 h	After 288 h	After 360 h	After 363 h	After 50 cycles
High-voltage test (see 16.3)	—	—	—	—	—
Leakage current (mA) (see 16.2)	—	—	—	—	0,21
Electric strength (see 13.3)	—	—	—	—	1000
Room temperature (°C) (20 ± 5°C)	—	—	—	—	20,0
Number of cycles (≥ 2000 or 50)	—	—	—	—	50
Housing temperature (°C) (≤ 150°C)	—	—	—	—	25,3
supplementary information:					

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

24.1	TABLE: Components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Components for outdoor model: RAS-13PAVPG-E, RAS-16PAVPG-E, RAS-13PAVPG-NZ, RAS-16PAVPG-NZ					
Compressor	GMCC	KTN150D42UFZ	DC Comp. Current 7.92 A. Input 1190 W. R32	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Components for outdoor model: RAS-10PAVPG-E, RAS-10PAVPG-NZ					
Compressor	**GMCC**	**KTN110D42UFZ**	**DC Comp. Current 5.95 A. Input 885 W. R32**	**IEC/EN 60335-2-40 IEC/EN 60335-1**	**Tested with appliance**
Components for outdoor model: RAS-13PAVPG-E, RAS-16PAVPG-E, RAS-13PAVPG-NZ, RAS-16PAVPG-NZ, **RAS-10PAVPG-E, RAS-10PAVPG-NZ**					
Fan Motor	NIDEC	ICF-140-43-4R	DC 140V,43W, Class E	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Fan Motor (Alternative)	Welling	WDF-340-A43-1	DC 340V,43W, Class E	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
4-Way Valve Coil	HUALU	STF	AC 220-240V, 50/60 Hz	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
4-Way Valve Coil (Alternative)	SANHUA	SQ	AC 220-240V, 50/60Hz	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
4-Way Valve Coil (Alternative)	DUNAN	DXQ	AC 220-240V, 50/60Hz	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
4-Way Valve Coil (Alternative)	DUNAN	DFS-4	AC 220-240V, 50/60Hz	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
PMV Coil	FUJIKOKI	CAM	12VDC	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
PMV Coil (Alternative)	SANHUA	PQ	12VDC	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Reactor	TABUCHI	CH-69	47W ,59.7V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Reactor (Alternative)	DPC	CH-69	47W ,59.7V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

24.1	TABLE: Components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Terminal Block	JINLONG	JXO-5B	5P, AC 250V, 20A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Print Circuit Board	TOSHIBA	WP-030	Material: Glass fiber epoxy resin	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Components for Printed circuit board model: WP-030					
Fuse (F01)	NIPPON SEISEN	GDT	25A, 250VAC	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Fuse (F01) (Alternative)	SOC	CES15, 25A	25A, 250VAC	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Fuse (F02)	PICO	SCT	3.15A, 250VAC	IEC/EN 60127-2	SEMKO, VDE
Fuse (F02) (Alternative)	NIPPON SEISEN	FJL, FSL	3.15A, 250VAC	IEC/EN 60127-2	SEMKO
Fuse (F02) (Alternative)	SOC	ET	3.15A, 250VAC	IEC/EN 60127-2	SEMKO
SW.Transformer (T101)	TDK	ST-04	Input :AC 176-276, Output: 8V, 13V,17V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Varistor (R01),(R02)	NIPPON CHEMI-CON	TNR14V471K,	470V, 0.6W	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Varistor (R01),(R02), (Alternative)	EPCOS	S14K300E2	470V, 0.6W	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Line Filter (L01,L02)	TNC	25A2020	2.0mH, 12A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Line Filter (L01, L02) (Alternative)	VRK	VRKR25	2.0mH, 12A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Line Filter (L01,L02) (Alternative)	DMC	GET-04052	2.0mH, 10A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Line Filter (L01,L02) (Alternative)	UENO	ADR2510	2.0mH, 10A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance

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Clause	Requirement + Test	Result - Remark	Verdict

24.1	TABLE: Components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Capacitor (C06)	OKAYA	LE105	1μF, AC 310V, X2	IEC/EN 60384-14	SEMKO
Capacitor (C06) (Alternative)	ARCOTRONICS	R46	1μF, AC 275V, X2	IEC/EN 60384-14	VDE
Capacitor (C06) (Alternative)	EUROTRONIC	MPX2	1μF, AC 275V, X2	IEC/EN 60384-14	VDE
Capacitor (C06) (Alternative)	Nissei Electric	R46(KN)	1μF, AC 275V, X2	IEC/EN 60384-14	SEMKO
Capacitor (C02,C03, C04,C05)	MURATA	KH, KY	0.01μF, AC 250V	IEC/EN 60384-14	VDE
Capacitor (C07,C08)	NICHICON	LQ	760μF, 400V, 500μF, 400V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Capacitor (C07,C08) (Alternative)	NIPPON CHEMI-CON	CE	760μF, 400V, 500μF, 400V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Capacitor (C07,C08) (Alternative)	RUBYCON	CE	760μF, 400V, 500μF, 400V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Relay (RY01)	SONG CHUAN	891P-1A-C	Coil : 12VDC Contact : 20A	IEC/EN 61810-1 IEC/EN 60335-2-40 IEC/EN 60335-1 IEC/EN 60079-15	TUV& Tested with appliance
Relay (RY01) (Alternative)	OMRON	G4A-1A-PE	Coil : 12VDC Contact : 20A	IEC/EN 61810-1 IEC/EN 60335-2-40 IEC/EN 60335-1 IEC/EN 60079-15	VDE& Tested with appliance
Relay (RY01) (Alternative)	DEC	DEX12D1	Coil : 12VDC Contact : 20A 250 VAC	IEC/EN 61810-1 IEC/EN 60335-2-40 IEC/EN 60335-1 IEC/EN 60079-15	VDE& Tested with appliance
Relay (RY72)	OMRON	G5NB-1A	Coil : 12VDC Contact : 3A, 250VAC	IEC/EN 61810-1	VDE& Tested with appliance
Relay (RY72) (Alternative)	PANASONIC	ALDP112	Coil : 12VDC Contact : 5A, 250VAC	IEC/EN 61810-1	VDE& Tested with appliance

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24.1	TABLE: Components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Components for all indoor unit model : RAS-13PKVPG-E, RAS-16PKVPG-E, RAS-13PKVPG-NZ, RAS-16PKVPG-NZ, **RAS-10PKVPG-E, RAS-10PKVPG-NZ**					
Fan Motor	NIDEC	ICF-340-30-6	DC340V, 42W, Class E	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Fan Motor (Alternative)	NIDEC	ICF-340U30-2	DC340V, 30W, Class E	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Fan Motor (Alternative)	PANASONIC	MF-340-30-3	DC340V, 30W, Class E	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Fan Motor (Alternative)	PANASONIC	MF-340-30-4	DC340V, 30W, Class E	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Fan Motor (Alternative)	PANASONIC	MF-340-30-1RT	DC340V, 30W, Class E	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Terminal Block	OTAX	TB-ETS-3P	3P, AC 300V , 20A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Terminal Block (Alternative)	JINLONG	JXO-2B, JXO-3B	2P, 3P,AC 300V, 20A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Terminal Block (Alternative)	HOPPY	HP-T3038-2P, HP-T3038-3P	2P, 3P,AC 300V, 20A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Louver Motor	HIGASHIFUJI	MP24Z4N, MP24ZCN, MP24Z3N	12VDC	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Louver Motor (Alternative)	LEILI	24BYJ48-STC	12VDC	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Print Circuit Board	SHIRAI/ TOSHIBA	MCC-5088	Material: Glass Epoxy UL 94 flame	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Components for Printed circuit board model: MCC-5088					
Fuse(F01)	SOC	ET	3.15A, 250VAC	IEC/EN 60127-2	SEMKO
Fuse(F01) (Alternative)	NIPPON SEISEN	FJL, FSL	3.15A, 250VAC	IEC/EN 60127-2	SEMKO
Fuse(F01) (Alternative)	PICO	SCT	3.15A, 250VAC	IEC/EN 60127-2	VDE

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24.1	TABLE: Components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Switching Transformer (T101)	TDK	SWT-100	Input: 85-276VAC Output: 1.8V, 7.6V, 13V, 29.3V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Varistor(R01)	NIPPON CHEMI-CON	TNR14V561K	560V, 0.6W	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Varistor(R01) (Alternative)	WALSIN	SR561K14D	560V, 0.6W	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Varistor(R01) (Alternative)	EPCOS	S14K300E2	470V, 0.6W	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Line Filter (L01)	TOKIN	SS11V-R05350	35mH, 0.5A	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Capacitor (C01)	OKAYA	LE334	0.33µF, 310VAC	IEC 60384-14	SEMKO
Capacitor (C01) (Alternative)	ARCOTRONICS	R46	0.33µF, 275VAC	IEC 60384-14	SEMKO
Capacitor (C03)	NIPPON CHEMI-CON	KMH	120µF,450V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Capacitor (C03) (Alternative)	ELNA	LAH	150uF, 450V	IEC/EN 60384-14	VDE
Diode bridge (DB01)	SHINDENGEN	D3SBA60	4A, 600V	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance
Relay (RY01)	DEC	DX12D1	Coil : 12VDC Contact : 20A, 250V	IEC/EN 61810-1 IEC/EN 60335-2-40 IEC/EN 60335-1 IEC/EN 60079-15	VDE& Tested with appliance
Relay (RY01) (Alternative)	SONG CHUAN	891P-1A-C	Coil : 12VDC Contact : 20A, 250V	IEC/EN 61810-1 IEC/EN 60335-2-40 IEC/EN 60335-1 IEC/EN 60079-15	TUV& Tested with appliance
Relay (RY01) (Alternative)	OMRON	G4A-1A-E	Coil : 12VDC Contact : 20A, 250V	IEC/EN 61810-1 IEC/EN 60335-2-40 IEC/EN 60335-1 IEC/EN 60079-15	VDE& Tested with appliance
Component for Printed circuit board model: HV Generator					
HV Generator	MURATA	MPH4145	Output Ionizer 6kV	IEC/EN 60335-2-40 IEC/EN 60335-1	Tested with appliance

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Appendix EMF	**Model : RAS-10PAVPG-E/ RAS-10PKVPG-E**	P
	TEST: Evaluation of the magnetic fields	
Applied standards:	EN 62233:2008 (incl. Corr.1:2008)	
Method	Used method: 5.5.2 Time domain evaluation	—
Applied Limit	ICNIRP Guidelines	—

Identification of the appliance	Type of apparatus	Split Type Air Conditioners
	Rated Voltage	220-240V
	Rated Frequency	50Hz
Parameters required prior to the test	Laboratory Ambient Temperature	25 °C ± 10 °C
	Supply Voltage	(Rated Voltage ± 2 %) V
	Supply Frequency	(Rated Frequency ± 2 %) Hz
Parameters recorded during the test	Laboratory Ambient Temperature	26,0 °C
	Supply Voltage	230V
	Supply Frequency	50Hz
Operating Mode	--	

Method 5.5.2

Measuring Positions	Measuring Distance	Coupling Factor	Measurement Uncertainty
Round	30	0,18	N/A

Frequency (kHz)	Limit (%)	Measured Maximum Value (%)
0,01 to 400	100	15,9 %

Supplementary information:

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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ATTACHMENT TO TEST REPORT IEC 60335-2-40
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Part-2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers

Differences according to :		EN 60335-2-40:2003 (incl. Corr.:2006) + A11:2004 + A12:2005 + A1:2006 + A2:2009 + A13:2012 (incl. Corr.:2013) EN 60335-1:2012 (incl. Corr.:2014)
Attachment Form No.	**:**	EU_GD_IEC60335_2_40H
Attachment Originator	**:**	VDE
Master Attachment	**:**	2014-02

	CENELEC COMMON MODIFICATIONS		
6.1	Delete “class 0” and “class 01”		Noted
7.1	Single-phase appliances to be connected to the supply mains: 230 V covered		P
	Multi-phase appliances to be connected to the supply mains: 400 V covered		N/A
7.10	Devices used to start/stop operational functions of the appliance distinguished from other manual devices by means of shape, size, surface texture, position, etc.		P
	An indication that the device has been operated is given by:		P
	- a tactile feedback, or		N/A
	- an audible and visual feedback		P
7.12	The instructions include the substance of the following:		——
	- this appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved		P
	- children shall not play with the appliance		P
	- cleaning and user maintenance shall not be made by children without supervision		P
7.12.1	Installation instructions for appliances intended to be permanently connected to fixed wiring, and have leakage current exceed 10 mA, state that installation of residual current device (RCD) having rated residual operating current not exceeding 30 mA is advisable (EN 60335-2-40)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	For appliances not accessible to the general public and which are intended to be permanently connected to fixed wiring and which may have leakage currents exceeding 10 mA, the installation instructions shall specify the rating of the residual current device (RCD) to be installed (EN 60335-2-40/A12)		N/A
7.12.Z1	The specific instructions related to the safe operation of this appliance is collated together in the front section of the user instructions		P
	The height of the characters, measured on the capital letters, is at least 3 mm		P
	These instructions are also available in an alternative format, e.g. on a website		P
8.1.1	Also test probe 18 of EN 61032 is applied		P
	The appliance being in every possible position, except that appliances normally used on the floor and having a mass exceeding 40 kg are not tilted. (EN 60335-1:2012/AC:2014)		P
	The force on the probe in the straight position is increased to 10 N when probe 18 is used		P
	When using test probe 18 the appliance is fully assembled as in normal use without any parts removed, and		P
	parts intended to be removed for user maintenance are also not removed		P
8.2	Compliance is checked by applying the test probes of EN 61032		P
	For built-in appliances and fixed appliances, the test probe B and probe 18 of EN 61032 are applied only after installation		P
11.8	Footnotes to “External enclosure of motor-operated appliances” to be taken into account		P
13.2	Leakage current measurements (EN 60335-2-40)	(See appended table)	P
15.1.2	Appliances with an automatic cord reel tested with the cord in the most unfavourable position so that the reeling of the wet cord may affect electrical insulation during operation, the cord not being dried before reeling		N/A
15.2	Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (EN 60335-2-40)		P
16.2	Leakage current measurements (EN 60335-2-40)	(See appended table)	P
20.2	When using the test probe similar to test probe B with a circular stop face, the accessories and detachable covers are removed		P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Test probe 18 applied with a force of 2,5 N on the appliance fully assembled		P
24.1	Components comply with the safety requirements specified in the relevant standards as far as they reasonably apply		P
	The requirements of clause 29 of this standard apply between live parts of components and accessible parts of the appliance.		P
	The requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components		P
	Components that have not been previously tested or do not comply with the standard for the relevant component are tested according to the requirements of 30.2		P
	Components that have been previously tested and shown to comply with the resistance to fire requirements in the standard for the relevant component need not be retested provided that:		——
	- the severity specified in the component standard is not less than the severity specified in 30.2, and		P
	- the test report for the component states whether it complied with the standard for the relevant component with or without flame, flames not exceeding 2 s during the test are ignored		P
	Unless components have been previously tested and found to comply with the relevant standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		P
	For components mentioned in 24.1.1 to 24.1.9, no additional tests specified in the relevant standard for the component are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components that have not been separately tested and found to comply with the relevant standard, and		P
	components that are not marked or not used in accordance with their marking,		P
	are tested in accordance with the conditions occurring in the appliance, the number of samples being that required by the relevant standard		P
	Lamp holders and starter holders that have not been previously tested and found to comply with the relevant standard are tested as a part of the appliance and additionally comply with the gauging and interchangeability requirements of the relevant standard under the conditions occurring in the appliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Where the relevant standard specifies these gauging and interchangeability requirements at elevated temperatures, the temperatures measured during the tests of clause 11 are used		N/A
	Plugs and socket-outlets and other connecting devices of interconnection cords are not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1, or		N/A
	with connectors and appliance inlets complying with the standard sheets of IEC 60320-1,		N/A
	if direct supply to these parts from the supply mains gives rise to a hazard		N/A
24.1.7	If the remote operation of the appliance is via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is EN 41003		N/A
	Compliance with clause 8 of this standard is not impaired by connecting the appliance to a device covered by EN 41003		N/A
24.Z1	For motor running capacitors (IEC 60252-1 type P2) with a metallic enclosure having an overpressure fuse the flame testing of internal plastic parts supporting current carrying connections as required in 30.2.2 and 30.2.3.1 is not necessary		N/A
25.6	Supply cords of single-phase portable appliances having a rated current not exceeding 16 A, fitted with a plug complying with the following standard sheets of IEC/TR 60083:		——
	- for class I appliances: standard sheet C2b, C3b or C4..... :		N/A
	- for class II appliances: standard sheet C5 or C6 ..... :		N/A
25.7	Rubber sheathed cords (60245 IEC 53) are not suitable for appliances intended to be used outdoors or when they are liable to be exposed to significant amount of ultraviolet radiation		N/A
	Halogen-free thermoplastic compound sheathed supply cords have properties at least those of:		N/A
	- halogen-free thermoplastic compound sheathed cords (H03Z1Z1H2-F or H03Z1Z1-F), for appliances having a mass not exceeding 3 kg		N/A
	- halogen-free thermoplastic compound sheathed cords (H05Z1Z1H2-F or H05Z1Z1-F), for other appliances		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Cross-linked halogen-free compound sheathed supply cords have properties at least those of cross-linked halogen-free compound sheathed cords (H07ZZ-F)		N/A
26.11	Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain them in position unless they are held in place near the terminals independently of the solder		N/A
29.3.Z1	Appliance constructed so that if there is a possibility of damaging the insulation during installation, the insulation withstands the scratch and penetration test of 21.2		N/A
32	Compliance regarding electromagnetic fields is checked according to EN 62233		P
GG.2	Requirements for charge limits in unventilated areas (EN 60335-2-40/A1)		N/A
GG.Z1	Non fixed factory sealed single package units with a charge amount of $m_1 < M \leq 2 \times m_1$ (EN 60335-2-40/A1)		N/A
Annex I, 19.I.101	The appliance is supplied at rated voltage and operated under normal operation with each of the fault conditions specified		N/A
	The duration of the test is as specified in 19.7		N/A
ZA	**ANNEX ZA** (NORMATIVE) **SPECIAL NATIONAL CONDITIONS**		——
	Norway		——
19.5	The test is also applicable to appliances intended to be permanently connected to fixed wiring		N/A
	Norway		——
22.2	The second paragraph of this subclause, dealing with single-phase, permanently connected class I appliances having heating elements, is not applicable due to the supply system		N/A
	All CENELEC countries		——
25.6 and 25.25	Information concerning National plug and socket-outlets is available from the CENELEC website. Normative national requirements concerning plug and socket-outlets are shown in the relevant National standard		N/A

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

	Ireland and United Kingdom		——
25.8	In the table, the lines for 10 A and 16 A are replaced by:		
	> 10 and ≤ 13 1,25 (1,0)[b](EN 60335-1:2012/AC:2014)		P
	> 13 and ≤ 16 1,5 (1,0)[b] (EN 60335-1:2012/AC:2014)		N/A
ZB	**ANNEX ZB** (INFORMATIVE) **A-DEVIATIONS**		——
	Ireland		——
25.6	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs complying with I.S. 401:1997, or equivalent, to be fitted to domestic appliances		N/A
	United Kingdom		——
25.6	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs to BS 1363 to be fitted to domestic appliances. It also allows plugs to BS 4573 and EN 50075 to be fitted to shavers and toothbrushes		N/A
ZC	**ANNEX ZC** (NORMATIVE) **NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		——
	A list of referenced documents in this standard		P
ZD	**ANNEX ZD** (INFORMATIVE) **IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS**		——
	A table with IEC and CENELEC code designations for flexible cords		P
ZE	**ANNEX ZE** (INFORMATIVE) **SPECIFIC ADDITIONAL REQUIREMENTS FOR APPLIANCES AND MACHINES INTENDED FOR COMMERCIAL USE**		——
7.1	Business name and full address of the manufacturer and, where applicable, his authorized representative..... :		N/A
	Model or type reference..... :		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Serial number, if any..... :		N/A
	Production year		N/A
	Designation of the appliance ..... :		N/A
7.12	Instructions provided with the appliance so that the appliance can be used safely		N/A
	The instructions contain at least the following information:		N/A
	- the business name and full address of the manufacturer and, where applicable, his authorized representative		N/A
	- model or type reference of the appliance as marked on the appliance itself, except for the serial number		N/A
	- the designation of the appliance together with its explanation in case it is given by a combination of letters and/or numbers		N/A
	- the general description of the appliance, when needed due to the complexity of the appliance		N/A
	- specific precautions if required during installation, operation, adjusting, user maintenance, cleaning, repairing or moving		N/A
	- when needed drawings, diagrams, descriptions and explanations necessary for the safe use and user maintenance of the appliance		N/A
	- the possible reasonably foreseeable misuse and, whenever relevant, a warning against the effects it may have on the safe use of the appliance		N/A
	The words “Original instructions” appear on the language version(s) verified by the manufacturer or by the authorized representative		N/A
	When a translation of the original instructions has been provided by a person introducing the appliance on the market; the meaning of the sentence “Translation of the original instructions” appear in the relevant instructions delivered with the appliance		N/A
	The instructions for maintenance/service to be done by specialized personnel, mandated by the manufacturer or the authorized representative may be supplied in only one Community language which the specialized personnel understand		N/A
	The instructions indicate the type and frequency of inspections and maintenance required for safe operation including the preventive maintenance measures		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	"This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons". (EN 60335-2-40/A13)		N/A
7.12.ZE1	If needed for specific appliances, the following information to be given:		——
	- on use, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns, if these operations have consequences on stability of the appliance in order to avoid overturning, falling or uncontrolled movements of the appliance or of its component parts		N/A
	- on how to maintain adequate mechanical stability when in use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance		N/A
	- on the protective measures to be taken by the user, including, where appropriate, the personal protective equipment to be provided		N/A
	- on the operating method to be followed in the event of accident or breakdown; if a blockage is likely to occur the operating method to safely unblock the appliance		N/A
	- on the specifications on the spare parts to be used, when these affect the health and safety of the operator		N/A
	- on airborne noise emissions, determined and declared in accordance with the Annex ZAB, which includes: (EN 60335-2-40/A13)		——
	- the A-weighted emission sound pressure level at workstations, where this exceeds 70 dB(A) ..... ; (EN 60335-2-40/A13)		N/A
	- where this level does not exceed 70 dB(A), no value needs to be given, but the instructions shall state that the A-weighted sound pressure level is below 70 dB. (EN 60335-2-40/A13)		N/A
	- the peak C-weighted instantaneous sound pressure value at workstations, where this exceeds 63 Pa (130 dB in relation to 20 µPa) :		N/A
	- the A-weighted sound power level emitted by the machinery, where the A-weighted emission sound pressure level at workstations exceeds 80 dB(A) ..... :		N/A
7.12.ZE2	The instructions includes a warning to disconnect the appliance from its power source during service and when replacing parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If the removal of the plug is foreseen, it is clearly indicated that the removal of the plug has to be such that an operator can check from any of the points to which he has access that the plug remains removed		N/A
	If this is not possible, due to the construction of the appliance or its installation, a disconnection with a locking system in the isolated position is provided		N/A
19.11.4.8	The appliance continues to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage fluctuation occurred, or		N/A
	a manual operation is required to restart it		N/A
20.1	Appliances and their components and fittings have adequate mechanical stability during transportation, assembly, dismantling and any other action involving the appliance		N/A
20.2	Dangerous moving transmission parts safeguarded either by design or guards		N/A
	When guards are used, they are fixed guards, interlocking movable guards or protective devices		N/A
	Moving parts directly involved in the function of the appliance which cannot be made completely inaccessible fitted with:		——
	- fixed guards or interlocking movable guards preventing access to those sections of the parts that are not used in the work, and		N/A
	- adjustable guards restricting access to those sections of the moving parts where access is necessary		N/A
	Interlocking movable guards used where frequent access is required		N/A
21.1	Appliances and their components and fittings have adequate mechanical strength and is constructed to withstand such rough handling that may be expected in normal use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance		N/A
22.ZE.1	For appliances provided with a seat, the seat gives adequate stability		N/A
	The distance between the seat and the control devices capable of being adapted to the operator		N/A
22.ZE.2	For appliances provided with separate devices for the start and the stop functions, the stop function is unambiguously identifiable and does always override the start function		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For appliances provided with one device performing the start and the stop function, the stop function is unambiguously identifiable and does always override the start function		N/A
22.ZE.3	Appliances designed in such a way that incorrect mounting is avoided, if this can lead to an unsafe situation		N/A
	If this is not possible, information on the correct mounting is given directly on the part and/or the enclosure		N/A
22.ZE.4	Where the weight, size or shape prevents appliances from being moved manually, they are fitted with attachments for lifting gear, or		N/A
	so designed that they can be fitted with such attachments, or		N/A
	be shaped in such a way that standard lifting gear can easily be used		N/A
	Appliances to be moved manually are constructed or equipped so that they can be moved easily and safely		N/A
22.ZE.5	The fixing systems of fixed guards which prevent access to dangerous moving transmission parts only removable with the use of tools		N/A
	If such guards have to be removed by the user for routine cleaning or maintenance their fixing systems remain attached to the fixed guards or to the machine after removal		N/A
	Where possible, guards are incapable of remaining in place without their fixings		N/A
	This does not apply if, after removal of the screws, or if the component is incorrectly repositioned, the appliance becomes inoperative		N/A
	Movable guards are interlocked		N/A
	The interlocking devices prevent the start of hazardous appliance functions until the guards are fixed in their position, and give a stop command whenever they are no longer closed		N/A
	Where it is possible for an operator to reach the danger zone before the risk due to hazardous appliance functions has ceased, movable guards associated with a guard locking device in addition to an interlocking device that:		——
	- prevents the start of hazardous appliance functions until the guard is closed and locked, and		N/A
	- keeps the guard closed and locked until the risk of injury from the hazardous appliance functions has ceased		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Interlocking movable guards remain attached to the appliance when open, and		N/A
	they are designed and constructed in such a way that they can be adjusted only by means of an intentional action		N/A
22.ZE.6	Interlocking movable guards designed in such a way that the absence or failure of one of their components prevents starting or stops the hazardous appliance functions		N/A
	The guard is opened at the extent needed to cause the interlocking to operate and is then closed. This operation is carried out for 5 000 cycles at a rate of 5 cycles per min. (EN 60335-2-40/A13/AC)		N/A
	After this test any defect that may be expected in normal use is applied to the interlock system, including interruption of the supply, only one defect being simulated at a time		N/A
	After these tests the interlock system is fit for further use		N/A
22.ZE.7	Adjustable guards restricting access to areas of the moving parts strictly necessary for the work are:		——
	- adjustable manually or automatically, depending on the type of work involved, and		N/A
	- readily adjustable without the use of tools		N/A
22.ZE.8	In case of interruption, re-establishment after an interruption or fluctuation in whatever manner of the power supply, the appliance does not restart		N/A
	However, automatic restarting of the operation is allowed if the appliance may continue to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage interruption or fluctuation occurred		N/A
22.ZE.9	Appliances fitted with means to isolate them from all energy sources		N/A
	Such isolators are clearly identified, and		N/A
	they are capable of being locked if reconnection endanger persons		N/A
	After the energy source is disconnected, it is possible to dissipate any energy remaining or stored in the circuits of the appliance without risk to persons		N/A
ZF	**ANNEX ZF** (INFORMATIVE) **CRITERIA APPLIED FOR THE ALLOCATION OF PRODUCTS COVERED BY STANDARDS IN THE EN 60335 SERIES UNDER LVD OR MD**		——

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	List of standards under CENELEC/TC61 with the allocation under the LVD (Low Voltage Directive) or the MD (Machinery Directive)..... :	LVD	P
ZG	**ANNEX ZG** (NORMATIVE) **UV APPLIANCES**		——
	The following modifications to this standard apply to appliances having UV emitters		N/A
	This annex is not applicable to appliances covered by the scopes of IEC 60335-2-27, IEC 60335-2-59 or IEC 60335-2-109		N/A
7.12.ZG	The instructions for appliances incorporating UVC emitters include the substance of the following: WARNING — This appliance contains a UV emitter. Do not stare at the light source		N/A
32	For appliances incorporating UV emitters the manufacturer delivers a declaration providing evidence that the plastic material exposed to the radiation is UV resistant		N/A
ZZ	**ANNEX ZZ** (INFORMATIVE) **COVERAGE OF ESSENTIAL REQUIREMENTS OF EC DIRECTIVES**		——
	Description of the relation between this European standard and the LVD (Low Voltage Directive, 2006/95/EC) and the MD (Machinery Directive, 2006/42/EC)		P
ZAA	**ANNEX ZAA (INFORMATIVE) (EN 60335-2-40/A11)** **THE RELEVENCE OF THE PRESSURE EQUIPMENT DIRECTIVE**		——
	Refrigerating systems having a pressure greater than 0,05 MPa are considered to be assemblies falling within the scope of the Pressure Equipment Directive, 97/23/EC. However, according to Article 1, item 3.6 of the directive, equipment classified no higher than category I and covered by the low voltage directive is excluded from its scope. (EN 60335-2-40/A11)		N/A
	According to guideline 1/39 of the directive, this exclusion applies to both components and assemblies (refrigerant circuits). This applies to appliances containing vessels (e.g. compressors, receivers) or piping with limits in accordance with the following (EN 60335-2-40/A11):		N/A
	Vessels (EN 60335-2-40/A11)		——
	- dangerous refrigerants (Annex II, Table 1) (EN 60335-2-40/A11):		——
	- volume not exceeding 1 l, or (EN 60335-2-40/A11)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- pressure x volume not exceeding 5 MPa l (EN 60335-2-40/A11)		N/A
	- non-dangerous refrigerants (Annex II, Table 2) (EN 60335-2-40/A11):		——
	- volume not exceeding 1 l, or (EN 60335-2-40/A11)		N/A
	- pressure x volume not exceeding 20 MPa l (EN 60335-2-40/A11)		N/A
	Piping (EN 60335-2-40/A11)		——
	- dangerous refrigerants (Annex II, Table 6) (EN 60335-2-40/A11):		——
	- numerical designation not exceeding 25, or (EN 60335-2-40/A11)		N/A
	- pressure not exceeding 1 MPa and numerical designation not exceeding 100, or (EN 60335-2-40/A11)		N/A
	- pressure exceeding 1 MPa and pressure x numerical designation not exceeding 100 MPa (EN 60335-2-40/A11).		N/A
	- non-dangerous refrigerants (Annex II, Table 7) (EN 60335-2-40/A11):		——
	- numerical designation not exceeding 100, or (EN 60335-2-40/A11)		N/A
	- pressure x numerical designation not exceeding 350 MPa (EN 60335-2-40/A11).		N/A
	For other components, the most onerous limit of the two applies (EN 60335-2-40/A11)		N/A
	The volume is the internal volume of the vessel and includes the volume of pipework up to the first connection. It excludes the volume of fixed internal parts (EN 60335-2-40/A11)		N/A
	The pressure is the maximum pressure the vessel or piping system is exposed to, as specified by the manufacturer of the appliance (EN 60335-2-40/A11)		N/A
	The numerical designation designates the size common to all components in the piping system (EN 60335-2-40/A11)		N/A
	If any component exceeds the limits given above, the appliance has to comply with the directive. The technical requirements are given in Annex I and the conformity assessment tables and procedures in Annexes II and III of the directive (EN 60335-2-40/A11)		N/A
	Commonly used dangerous refrigerants, identified as Group 1 in the directive, are listed in table ZAA.1 (EN 60335-2-40/A11)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Commonly used non-dangerous refrigerants, identified as Group 2 in the directive, are listed in table ZAA.2 (EN 60335-2-40/A11)		N/A
ZAB	**ANNEX ZAA (NORMATIVE) (EN 60335-2-40/A13) EMISSION OF ACOUSTICAL NOISE FROM APPLIANCES COVERED BY ANNEX ZE**		——
ZAB.1	Noise reduction is an integral part of the design process and achieved by particularly applying measures at source to control noise, see for example EN ISO 11688-1. (EN 60335-2-40/A13)		N/A
	Success of the applied noise reduction measures is assessed on the basis of the actual noise emission values in relation to other machines of the same type with comparable non-acoustical technical data. (EN 60335-2-40/A13)		N/A
ZAB.2.1	A-weighted emission sound pressure level determined in accordance with EN 11203:2009, 6.2.3 d) with the surface S being the measurement surface used for the sound power level determination. (EN 60335-2-40/A13)		N/A
	If the sound power level determination is based on a measurement method requiring a reverberant sound field, the surface S to define Q, shall be a parallelepiped measurement surface at a distance of 1 m from the reference box enclosing the source and assuming only one reflecting surface. (EN 60335-2-40/A13)		N/A
ZAB.2.2	A-weighted sound power level determined in accordance with EN 12102 applying a measurement method of at least grade 2. (EN 60335-2-40/A13)		N/A
	If a grade 3 measurement method used for determining the A-weighted sound power level, the. reasons are explicitly mentioned (EN 60335-2-40/A13)		N/A
ZAB.2.3	Total measurement uncertainty is depending on the standard deviation of reproducibility σ_{R0} of the measurement method and the standard deviation σ_{omc} representing the instability of the operating and mounting conditions. (EN 60335-2-40/A13)		N/A
	σ_{R0} has an upper value for a grade 2 measurement method of about 1,5 dB, whereas σ_{omc} may have values between 0,5 dB for small variations of the sound power due on the mounting and operating conditions or 4 dB for very instable sources (EN 60335-2-40/A13)		N/A
	Total measurement uncertainty for the A-weighted emission sound pressure level is of the same order as the one for the respective sound power level measurement. (EN 60335-2-40/A13)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
ZAB.2.4	Information to be recorded covers all the technical requirements of this noise test code. (EN 60335-2-40/A13)		N/A
	Any deviations from this noise test code or from the basic standards upon which it is based are to be recorded together with the technical justification for such deviations. (EN 60335-2-40/A13)		N/A
ZAB.2.5	Information to be given in the test report includes : (EN 60335-2-40/A13)		N/A
	- the data required by the manufacturer for inclusion in the noise declaration,. (EN 60335-2-40/A13)		N/A
	- the data required by the user to verify the declared values. (EN 60335-2-40/A13)		N/A
	Thus the following information shall be included.. : (EN 60335-2-40/A13)		N/A
	- reference to the noise test code and the basic noise emission standards used; (EN 60335-2-40/A13)		N/A
	- description of the installation and operation conditions used; (EN 60335-2-40/A13)		N/A
	- location of the work station(s) and other specified positions; (EN 60335-2-40/A13)		N/A
	- the noise emission values obtained (EN 60335-2-40/A13)		N/A
	Test report states that all requirements of the noise test code have been fulfilled, or, if this is not the case, it shall identify any unfulfilled requirements. (EN 60335-2-40/A13)		N/A
	Deviations from the requirements stated and a technical justification for these deviations shall be given. (EN 60335-2-40/A13)		N/A
ZAB.2.6	Noise emission declaration is made according to EN ISO 4871 (EN 60335-2-40/A13)		N/A
	Emission sound pressure level L_{pA} is made as a dual number noise emission declaration, thus declaring the determined value for L_{pA} and the respective uncertainty K_{pA}. (EN 60335-2-40/A13)		N/A
	Sound power level L_{WA} is declared as single number noise emission declaration declaring the sum of the measured sound power level and its uncertainty K_{WA}. (EN 60335-2-40/A13)		N/A
	Noise declaration states that the noise emission values have been obtained according to this noise test code. (EN 60335-2-40/A13)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Any deviations from this noise test code or from the basic standards upon which it is based are clearly indicated. (EN 60335-2-40/A13)		N/A
	Additional noise emission values are given in the declaration. (EN 60335-2-40/A13)		N/A
	If undertaken, verification of the noise emission values shall be conducted according to EN ISO 4871, using the same mounting and operating conditions as those used for the initial determination. (EN 60335-2-40/A13)		N/A

Differences to EN 60335-1:2012+A11:2014			
7.14	In NOTE Z1, replace “IEC 82079-1” by “EN 82079-1”		Noted
Annex ZF	In Table ZF.1-List of standards under CLC/TC 61, Replace line of EN 60335-2-38 by the following: EN 60335-2-38, Commercial electric griddles and griddle grills with moving parts.		N/A

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Unit Picture

Picture No.1 : Overall Front view of outdoor unit model: RAS-10PAVPG-E

Picture No.2 : Overall rear view of outdoor unit model: RAS-10PAVPG-E

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Unit Picture

Picture No.3 : Inner view of outdoor unit model: RAS-10PAVPG-E

Picture No. 4: Inner side view of outdoor unit model: RAS-10PAVPG-E

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Unit Picture

Picture No.5 : Terminal of outdoor unit model: RAS-10PAVPG-E

Picture No.6 : Compressor compartment of outdoor unit model: RAS-10PAVPG-E

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Unit Picture

Picture No.7 : Overall front view of indoor unit model: RAS-10PKVPG-E

Picture No.8 : Overall rear view of indoor unit model: RAS-10PKVPG-E

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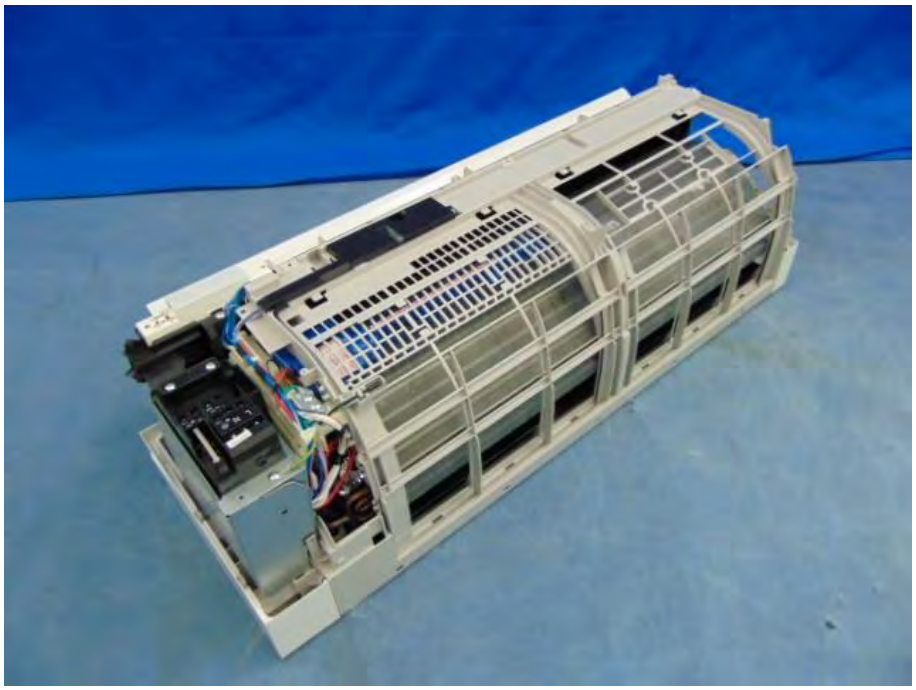
Unit Picture

Picture No.9 : Overall inner view of indoor unit model: RAS-10PKVPG-E



Picture No.10 : Overall inner view of indoor unit model: RAS-10PKVPG-E

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Unit Picture

Picture No.11 : Terminal view of indoor unit model: RAS-10PKVPG-E

Picture No.12 : PCB. compartment of indoor unit: RAS-10PKVPG-E

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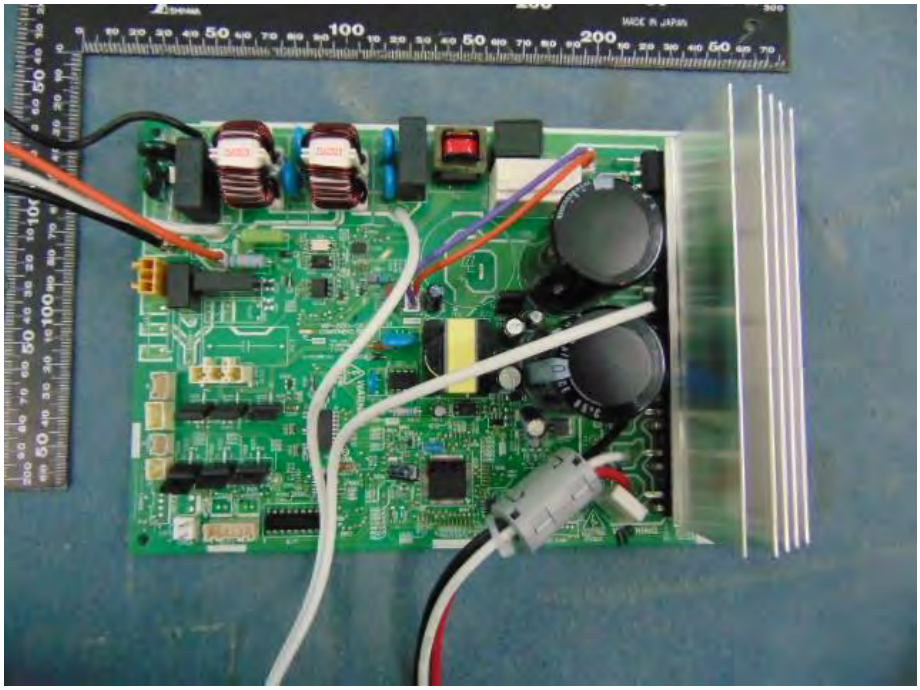
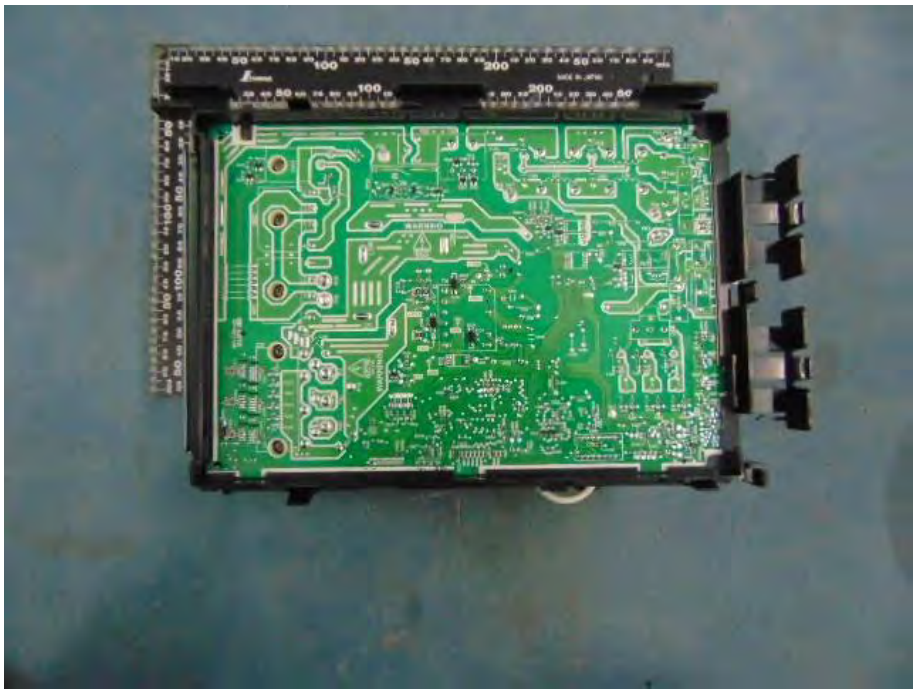
Unit Picture



Picture No.13 : Component view of PCB model: WP-030



Picture No.14 : Pattern view of PCB model: WP-030

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Unit Picture

Picture No.15 : Component view of PCB model: MCC-5088

Picture No.16 : Pattern view of PCB model: MCC-5088

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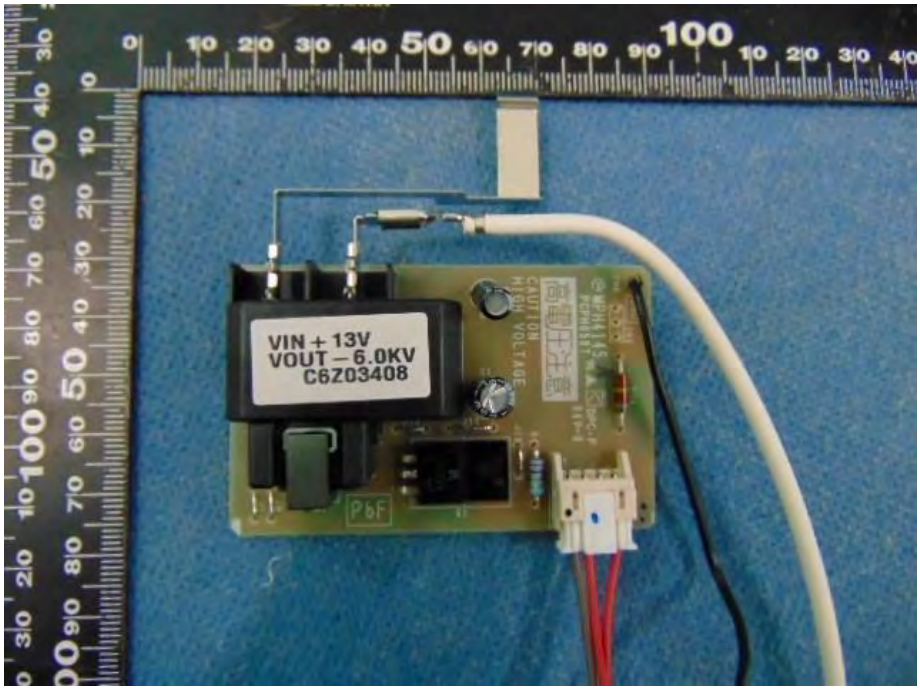
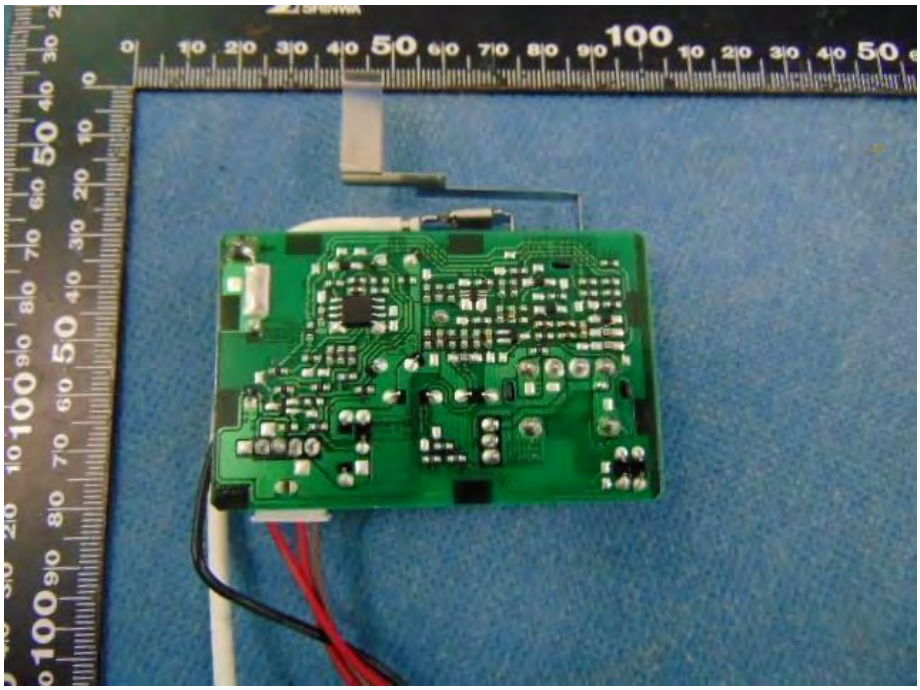
Unit Picture



Picture No.17 : Component view of PCB model: MPH4145



Picture No.18 : Component view of PCB model: MPH4145

********** **End of Report** **********

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