



LCIE

TEST REPORT
IEC 60335-2-21 & IEC 60335-2-40
Safety of household and similar electrical appliances
Part 2: Particular requirements for water heaters & particular
requirements for electrical heat pumps, air-conditioners and
dehumidifiers

Report Number..... : AZN-ESH-P23101332

Date of issue..... : 2023-11-15, Amendment 1: 2024-01-05

Total number of pages : 39

Name of Testing Laboratory
preparing the Report : LCIE China Company Limited
Building 4, No. 518, Xin Zhuan Road, CaoHejing Songjiang High-Tech Park, Shanghai, P.R.C (201612)

Applicant's name : Qingdao Economic & Technology Development Zone Haier Water Heater Co., Ltd.

Address..... : Haier Industry Park, Economic Development Zone, Qingdao City, Shandong Province, P. R. China.

Test specification:

Standard : IEC 60335-2-21:2012, COR1:2013, AMD1:2018 & IEC 60335-2-40:2018 used in conjunction with IEC 60335-1:2010, COR1:2010, COR2:2010, AMD1:2013, COR1:2014, AMD2:2016, COR1:2016

Test procedure : NF

Non-standard test method : N/A

Test Report Form No. : IEC60335_2_21&40I

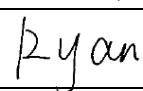
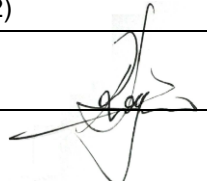
Test Report Form(s) Originator : LCIE

Master TRF : Dated 2020-04-09

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General disclaimer:

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








| | | | |
|---|---|---|--|
| Test item description : | Heat Pump Water Heater | | |
| Trade Mark(s) | Haier | | |
| Manufacturer | Qingdao Economic & Technology Development Zone Haier Water Heater Co., Ltd. | | |
| Model/Type reference | HP200M7C-F9, HP200M7-F9, HP250M7C-F9, HP250M7-F9 HP200M7C-F9(GN), HP200M7-F9(GN), HP250M7C-F9(GN), HP250M7-F9(GN) | | |
| Ratings | 220-240V~, 50Hz, IPX4, Class I, R290/0,15kg, 1500W (for electric heater), 535W (for heat pump), total 2035W | | |
| Responsible Testing Laboratory (as applicable), testing procedure and testing location(s): | | | |
| <input checked="" type="checkbox"/> | Testing Laboratory: | LCIE CHINA Company Limited | |
| Testing location/ address : | | Building 4, No. 518, XinZhuan Road, CaoHejing Songjiang High-Tech Park, Shanghai, P.R.C(201612) | |
| Tested by (name, function, signature) : | | Project Engineer: Ryan QIN |  |
| Approved by (name, function, signature) ... : | | Expert: Roger LUO |  |
| <input type="checkbox"/> | Testing procedure: CTF Stage 1: | | |
| Testing location/ address : | | | |
| Tested by (name, function, signature) : | | | |
| Approved by (name, function, signature) ... : | | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 2: | | |
| Testing location/ address : | | | |
| Tested by (name + signature) | | | |
| Witnessed by (name, function, signature) . : | | | |
| Approved by (name, function, signature) ... : | | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 3: | | |
| <input type="checkbox"/> | Testing procedure: CTF Stage 4: | | |
| Testing location/ address : | | | |
| Tested by (name, function, signature) : | | | |
| Witnessed by (name, function, signature) . : | | | |
| Approved by (name, function, signature) ... : | | | |
| Supervised by (name, function, signature) : | | | |

| | |
|--|---|
| List of Attachments (including a total number of pages in each attachment): None | |
| Summary of testing: | |
| Tests performed (name of test and test clause): EN 60335-2-21: 2021 + A1:2021, EN 60335-2-40: 2003 + A11:2004 + A12:2005 + A1:2006 +A2 :2009 +A13: 2012, EN 60335-1:2012+ A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021, EN 62233:2008 The original report AZN-ESH-P23101332 was modified to include the following changes, which were considered as technical modifications: <ol style="list-style-type: none"> 1. Corrected the information of Maximum pressure of refrigerant in the marking plate. 2. Corrected the information of the Pressure switch, which are marked in "bold" in table 24.1. 3. Corrected the capacity of water tank from 194l to 192l for HP200M7-F9 and HP200M7-F9(GN) marking plate. After technical evaluation, cl.7, 24 and Annex EE were checked on all models. Other test data were based on the original reports. The products were found complying with the standards. | Testing location: LCIE CHINA Company Limited Building 4, No. 518, XinZhuan Road, CaoHejing Songjiang High-Tech Park, Shanghai, P.R.C(201612) |
| Summary of compliance with National Differences (List of countries addressed): EU Group Differences EN 60335-2-21: 2021 + A1:2021, EN 60335-2-40: 2003 + A11:2004 + A12:2005 + A1:2006 +A2 :2009 +A13: 2012, EN 60335-1:2012+ A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021, EN 62233:2008 | |








Copy of marking plate:








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








English




| | |
|---|----------------|
| Haier    | |
| Heat Pump Water Heater | |
| Model | HP200M7C-F9 |
| Volume | 185l |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |
| MADE IN P.R.C. Manufactured By Haier     | |

French

| | |
|---|----------------|
| Haier    | |
| Chaque-eau à pompe à chaleur | |
| Modèle | HP200M7C-F9 |
| Volume | 185l |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |
| FABRIQUÉ EN CHINE Fabriqué par Haier     | |

| | |
|---|----------------|
| Haier    | |
| Heat Pump Water Heater | |
| Model | HP200M7-F9 |
| Volume | 192l |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |
| MADE IN P.R.C. Manufactured By Haier     | |





| | |
|---|----------------|
| Haier    | |
| Chaque-eau à pompe à chaleur | |
| Modèle | HP200M7-F9 |
| Volume | 192l |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |
| FABRIQUÉ EN CHINE Fabriqué par Haier     | |




Haier   

Heat Pump Water Heater

| | |
|---|----------------|
| Model | HP250M7C-F9 |
| Volume | 240l |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |

MADE IN P.R.C.
Manufactured By Haier





   




Haier   

Chauffe-eau à pompe à chaleur

| | |
|---|----------------|
| Modèle | HP250M7C-F9 |
| Volume | 240l |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |

FABRIQUÉ EN CHINE
Fabriqué par Haier





   




Haier   

Heat Pump Water Heater

| | |
|---|----------------|
| Model | HP250M7-F9 |
| Volume | 246L |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |

MADE IN P.R.C.
Manufactured By Haier





   




Haier   

Chauffe-eau à pompe à chaleur

| | |
|---|----------------|
| Modèle | HP250M7-F9 |
| Volume | 246L |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |

FABRIQUÉ EN CHINE
Fabriqué par Haier


   




Haier   

Heat Pump Water Heater

| | |
|---|-----------------|
| Model | HP200M7C-F9(GN) |
| Volume | 185l |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |

MADE IN P.R.C.
Manufactured By Haier







Haier   

Chauffe-eau à pompe à chaleur

| | |
|--|------------------|
| Modèle | HP200M7C-F9 (GN) |
| Volume | 185l |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |

FABRIQUÉ EN CHINE
Fabriqué par Haier







Haier   

Heat Pump Water Heater

| | |
|---|----------------|
| Model | HP200M7-F9(GN) |
| Volume | 192l |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |

MADE IN P.R.C.
Manufactured By Haier







Haier   

Chauffe-eau à pompe à chaleur

| | |
|--|----------------|
| Modèle | HP200M7-F9(GN) |
| Volume | 192l |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |

FABRIQUÉ EN CHINE
Fabriqué par Haier







Haier   

Heat Pump Water Heater

| | |
|---|-----------------|
| Model | HP250M7C-F9(GN) |
| Volume | 240l |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |

MADE IN P.R.C.
Manufactured By Haier







Haier   

Chauffe-eau à pompe à chaleur

| | |
|--|------------------|
| Modèle | HP250M7C-F9 (GN) |
| Volume | 240l |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |

FABRIQUÉ EN CHINE
Fabriqué par Haier







Haier   

Heat Pump Water Heater

| | |
|---|----------------|
| Model | HP250M7-F9(GN) |
| Volume | 246l |
| Protection class | IPX4 |
| Assigned water pressure | 0.7MPa |
| Electrical connection (voltage / frequency) | 220V-240V/50Hz |
| Maximum total power by DWH | 2035W |
| Average power input by HP | 320W |
| Maximum power input by HP | 535W |
| Power input by electric backup | 1500W |
| Refrigerant | R290 / 0.15kg |
| Maximum pressure of refrigerant | 3.3MPa |
| Global Warming Potential (GWP) | 3 |
| Equivalent CO2 | 0.45kg |
| Number of manufacturer | 2025ED |
| Serial number | |

MADE IN P.R.C.
Manufactured By Haier




Haier   

Chauffe-eau à pompe à chaleur

| | |
|--|----------------|
| Modèle | HP250M7-F9(GN) |
| Volume | 246l |
| Classe de protection | IPX4 |
| Pression d'eau assignée | 0.7MPa |
| Connexion électrique (tension/fréquence) | 220V-240V/50Hz |
| Puissance totale maximale par ECS | 2035W |
| Puissance absorbée moyenne par HP | 320W |
| Puissance absorbée maximale par HP | 535W |
| Alimentation électrique par secours électrique | 1500W |
| Réfrigérant | R290 / 0.15kg |
| Pression maximale du réfrigérant | 3.3MPa |
| Potentiel de réchauffement climatique (PRG) | 3 |
| Équivalent CO2 | 0.45kg |
| Numéro de fabricant | 2025ED |
| Numéro de série | |

FABRIQUÉ EN CHINE
Fabriqué par Haier



Note: The manufacturer confirmed that:

- 1) A label shall be attached on the external enclosure of the product, which indicates the name, registered trade name or registered trade mark and the postal address of the importer or authorized

representatives. The postal address shall be a single point at which the importer or authorised representatives can be contacted and in the European Union countries.

2) The content about a type, batch or serial number or other element allowing its identification shall be on above label or on a separate label which shall be clearly discernible from the outside of the appliance.

3) A label including the following symbols shall be attached on the external enclosure of the product, the height of which is at least 10mm.



4) A label of the following symbol shall be attached on the external enclosure of the product, the height of which is at least 30mm.



5) A label containing the name and address of the manufacturer shall be attached on the external enclosure of the product.

| | |
|--|--|
| Test item particulars: Heat Pump Water Heater | |
| Classification of installation and use: Fixed appliance, Class I, IPX4 | |
| Supply Connection: Permanent connection to fixed wiring (Type Y): | |
| 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: 2023-12-10 | |
| Date (s) of performance of tests: 2023-12-10 to 2024-01-05 | |
| General remarks: | |
| "(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator. | |
| Manufacturer's Declaration per sub-clause 4.2.5 of IECCE 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: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable |
| When differences exist; they shall be identified in the General product information section. | |
| Name and address of factory (ies): Qingdao Economic & Technology Development Zone Haier Water Heater Co., Ltd. No. 666 Jiao Zhou Wan Xi Road, Huangdao District, Qingdao, China | |
| General product information and other remarks: 1. The models in the report are hot water heat pumps for household and indoor use only. 2. An electric heater works as the supplementary heater to quicken the heating or works alone when water needs to be heated above 65°C. 3. HP200M7-F9 is identical with HP250M7-F9 except the capacity of water tank. 4. The differences between HP250M7-F9 and HP250M7C-F9, as follow: a) HP250M7C-F9 has a coil exchanger that can be connected to other energy water pipeline (e.g. solar), while HP250M7-F9 has no such a coil exchanger. b) The capacity of water tank is different (250l for HP250M7-F9, 240l for HP250M7C-F9). 5. The differences between HP200M7-F9 and HP200M7C-F9, as follow: a) HP200M7C-F9 has a coil exchanger that can be connected to other energy water pipeline (e.g. solar), while HP200M7-F9 has no such a coil exchanger. b) The capacity of water tank is different (194l for HP200M7-F9, 185l for HP200M7C-F9). 6. HP200M7C-F9(GN), HP200M7-F9(GN), HP250M7C-F9(GN), HP250M7-F9(GN) were same with the | |

HP200M7C-F9,HP200M7-F9, HP250M7C-F9,HP250M7-F9 except for the model name.

Amendment 1:

The original report AZN-ESH-P23101332 was modified to include the following changes, which were considered as technical modifications:

1. Corrected the information of Maximum pressure of refrigerant in the marking plate.
2. Corrected the information of the Pressure switch, which are marked in "**bold**" in table 24.
3. Corrected the capacity of water tank from 194l to 192l for HP200M7-F9 and HP200M7-F9(GN) marking plate.

After technical evaluation, cl.7, 24 and Annex EE were checked on all models.

Other test data were based on the original reports.

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--------------------|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |

| | | | |
|----------|--|-------------------|-----|
| 7 | MARKING AND INSTRUCTIONS | | - |
| 7.1 | Rated voltage or voltage range (V).....: | 220-240V | P |
| | Symbol for nature of supply including number of phases, unless for single phase operation (IEC 60335-2-40): | | N/A |
| | Rated frequency (Hz)..... | 50 | P |
| | Rated power input (W), or..... | See rating labels | P |
| | Rated current (A) | | N/A |
| | Manufacturer's or responsible vendor's name, trademark or identification mark | See rating labels | P |
| | Model or type reference | See rating labels | P |
| | Symbol IEC 60417-5172, for class II appliances | | N/A |
| | IP number, other than IPX0 | See rating labels | P |
| | Symbol IEC 60417-5180 (2003-02),, for class III appliances, unless | | N/A |
| | the appliance is operated by batteries only, or | | N/A |
| | for appliances powered by rechargeable batteries recharged in the appliance | | N/A |
| | Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth | | N/A |
| | Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage | | N/A |
| | Closed water heater shall be marked with a statement that pressure relief device is to be fitted unless incorporated in the appliance | | P |
| | Closed water heater having rated pressure less than 0.6 MPa and low pressure water heaters that a pressure reducing valve is to be fitted in the installation (IEC 60335-2-21) | | P |
| | Open-outlet water heaters marked with a warning about no connection to tap or any fitting not recommended by manufacturer (IEC 60335-2-21) | | N/A |
| | Refrigerant charge for each refrigerating system, (IEC 60335-2-40): | See rating labels | P |
| | Refrigerant as designated under ISO 817 (IEC 60335-2-40): | R290 | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Permissible excessive operating pressure for the storage tank (for sanitary hot water heat pumps); (IEC 60335-2-40): | 0,7MPa | P |
| | Maximum allowable pressure in the water and/or brine circuit for the heat exchanger for hydronic fan coil units; (IEC 60335-2-40): | | N/A |
| | Maximum allowable pressure for the refrigerant circuit; if the permissible excessive operating pressure for the suction and discharge side differ, a separate indication is required (IEC 60335-2-40): | Max. 3,3MPa for both sides | P |
| | for pre-charged pipe sets (IEC 60335-2-40): | | N/A |
| | -refrigerant number in accordance with ISO 817 | | N/A |
| | -the refrigerant charge in the line set | | N/A |
| | -maximum allowable pressure | | N/A |
| | Ratings in watts and voltage of a UV-C germicidal lamp system if employed (IEC 60335-2-40): | | N/A |
| | Separate marking of the appliances with all the rated characteristics of the supplementary heaters (IEC 60335-2-40): | | N/A |
| | Appliances are marked with all of the designations and the rated inputs of the supplementary heaters for which they are intended to be used, and have provision for identifying the actual heater that is field installed (IEC 60335-2-40): | | N/A |
| | Marking of direction of fluid flow (IEC 60335-2-40) | By words for the water flow | P |
| | For appliances using flammable refrigerants, the flame symbol ISO 7010-W021 (2011-05) and the operator's manual symbol described in 7.6 be visible when viewing the appliance after it has been installed. (IEC 60335-2-40) | | P |
| | Marking may be behind a detachable part (IEC 60335-2-40) | | P |
| | Perpendicular height of the triangle used for the symbol shall be at least 30 mm. (IEC 60335-2-40) | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | For appliances that are not single packaged units, the required markings be provided on all indoor and outdoor units which complete the refrigerating system when installed. (IEC 60335-2-40) | | P |
| | When an A2L refrigerant is used, the flame symbol ISO 7010-W021 (2011-05) be replaced with the A2L symbol described in 7.6. (IEC 60335-2-40) | | N/A |
| | If a flammable refrigerant is used, the symbols for "read operator's manual", "operator's manual; operating instructions" and "service indicator; read technical manual" (symbols ISO 7000-0790 (2004-01) and ISO 7000-1659 (2004-01)) including colour and format be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height of the symbol be at least 10 mm. (IEC 60335-2-40) | | P |
| | If a flammable refrigerant is used, the symbols for "read operator's manual", "operator's manual; operating instructions" and "service indicator; read technical manual" (symbols ISO 7000-0790 (2004-01) and ISO 7000-1659 (2004-01)) including colour and format be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height of the symbol be at least 10 mm. (IEC 60335-2-40) | | P |
| | When an A2L refrigerant is used, the flame symbol ISO 7010-W021 (2011-05) be replaced with the A2L symbol described in 7.6. (IEC 60335-2-40) | | N/A |
| | For appliances, which are not fixed appliances, the minimum room size X shall be specified on the appliance. The X in the marking shall be determined in m2 according to Clause GG.2 for unventilated areas; and the X in the marking shall not be required if the refrigerant charge (mc) of the appliance is up to m1 according to GG.1.1. (IEC 60335-2-40) | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Following warning also be applied to the non-fixed appliance when a flammable refrigerant is employed. The warning be placed on the outside of the appliance such that it is visible when in service for non-fixed appliance. WARNING Appliance shall be installed, operated and stored in a room with a floor area larger than 'X' m². (IEC 60335-2-40) | | P |
| | Minimum room size X be specified on the appliance. The X in the marking be determined in m² according to Annex GG; the marking not be required if the refrigerant charge (mc) of the appliance is up to m1 according to GG.1.2. (IEC 60335-2-40) | | P |
| | If not already visible when accessing service port and if service port provided, service port marked to identify type of refrigerant. If refrigerant is flammable, symbol B.3.2 of ISO 3864, be included, without specifying the colour. When an A2L refrigerant is used, the flame symbol ISO 7010-W021 (2011-05) be replaced with the A2L symbol described in 7.6. (IEC 60335-2-40) | | N/A |
| | Appliances employing refrigerating systems with maximum allowable pressures > than 7 MPa be marked with symbol ISO 7000-1701 (2004-01) followed by the text "(X) MPa" and the Operator's manual; operating instructions symbol ISO 7000-1641 (2004-01). (IEC 60335-2-40) | | N/A |
| | Where: "X" is not less than the maximum allowable pressure as determined in Annex EE. (IEC 60335-2-40) | | N/A |
| 7.2 | Warning for stationary appliances for multiple supply | | N/A |
| | Warning placed in vicinity of terminal cover | | N/A |
| 7.3 | Range of rated values marked with the lower and upper limits separated by a hyphen | 220-240V | P |
| | Different rated values marked with the values separated by an oblique stroke | | N/A |
| 7.4 | Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible | | N/A |
| | Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram | | N/A |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 7.5 | Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless | | N/A |
| | the power input is related to the arithmetic mean value of the rated voltage range | | P |
| | Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear | | N/A |
| 7.6 | Correct symbols used | | P |
| | Symbol for nature of supply placed next to rated voltage | | P |
| | Symbol for class II appliances placed unlikely to be confused with other marking | | N/A |
| | Units of physical quantities and their symbols according to international standardized system | | P |
| | Symbol ISO 7010-W021 (2011-05).(IEC 60335-2-40) | | P |
| | Symbol ISO 7000-1659 (2004-01)(IEC 60335-2-40) | | P |
| | A2L symbol(IEC 60335-2-40) | | N/A |
| | Symbol ISO 7000-1701 (2004-01)(IEC 60335-2-40) | | N/A |
| | Symbol IEC 60417-6040 (2010-08)(IEC 60335-2-40) | | N/A |
| | Symbol ISO 7000-1641 (2004-01)(IEC 60335-2-40) | | P |
| 7.7 | Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless | | N/A |
| | correct mode of connection is obvious | | N/A |
| 7.8 | Except for type Z attachment, terminals for connection to the supply mains indicated as follows: | | -- |
| | - marking of terminals exclusively for the neutral conductor (letter N) | | N/A |
| | - marking of protective earthing terminals (symbol IEC 60417-5019) | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - marking of functional earthing terminals (symbol IEC 60417-5018) | | N/A |
| | - marking not placed on removable parts | | P |
| 7.9 | Marking or placing of switches which may cause a hazard | | P |
| 7.10 | Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means..... | figures, letters or other visual means | P |
| | This applies also to switches which are part of a control | | P |
| | If figures are used, the off position indicated by the figure 0 | | N/A |
| | The figure 0 indicates only OFF position, unless no confusion with the OFF position | | P |
| 7.11 | Indication for direction of adjustment of controls | | P |
| 7.12 | Instructions for safe use provided | | P |
| | Details concerning precautions during user maintenance | | P |
| | The instructions state that: | | - |
| | - the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction | | P |
| | - children being supervised not to play with the appliance | | P |
| | For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided | | N/A |
| | Instructions for class III appliances state that it must only be supplied at SELV, unless | | N/A |
| | it is a battery-operated appliance, the battery being charged outside the appliance | | N/A |
| | For appliances for altitudes exceeding 2000 m, the maximum altitude is stated | | N/A |
| | The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only | | N/A |
| | Classification of 6.101 included, for appliances not accessible to general public (IEC 60335-2-40) | | N/A |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | For appliances using flammable refrigerants, an installation, service and operation manual, either separate or combined manuals, shall be provided and include the information given in Annex DD. | | P |
| | The instructions for close water heaters shall state the substance of the following (IEC 60335-2-21): | | - |
| | the water may drip from the discharge pipe of the pressure-relief device and that this pipe must be left open to the atmosphere | | P |
| | the pressure-relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked; | | P |
| | How the water heater can be drained. | | P |
| 7.12.1 | Sufficient details for installation supplied | | P |
| | For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated | | P |
| | If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance | | N/A |
| | Sufficient details for installation or maintenance supplied (IEC 60335-2-40): | | - |
| | - national wiring regulations for installation | | P |
| | - the dimensions of the space necessary for correct installation of the appliance including the minimum permissible distance to adjacent structures | | P |
| | -- for appliances with supplementary heaters, the minimum clearance from the appliance to combustible surfaces | | P |
| | - a wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord | | P |
| | -the range of external static pressures at which the appliance was tested (add-on heat pumps and appliances with supplementary heaters only) | | N/A |
| | -the method of connection to the appliance to the electrical supply and interconnection of separate components | | P |
| | -indication of which parts of the appliance are suitable for outdoor use, if applicable | | N/A |
| | -details of type and rating of fuses , or rating of circuit breakers | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | -details of supplementary heating elements that may be used in conjunction with the appliance, including fitting instructions either with the appliance or with the supplementary heater | | P |
| | -maximum and minimum water or brine operating temperatures | 10 – 30 °C | P |
| | -maximum and minimum water or brine operating pressures | 0,1 - 0,5MPa | P |
| | -instructions on charging of refrigerants when addition of charge is required by the manufacturer for completing the refrigerating system | | N/A |
| | - Open storage tanks of heat pumps for water heating, accompanied by an instruction sheet which state that the vent shall not be obstructed | | N/A |
| | The installation instructions shall state the substance of the following | | - |
| | -the type or characteristics of the pressure relief device, how to connect it, unless it is incorporated in the appliance | | P |
| | -a discharge pipe connected to the pressure relief device installed downwards direction and in a frost-free environment | | P |
| | -the type or characteristics of a pressure reducing valve and the installation details (for appliances having a rated pressure less than 0,6 MPa) | | N/A |
| | The instructions for close water heaters incorporating heat exchanger shall give details on the installation of control devices and the temperature settings that are necessary to prevent operation of the thermal cut-out caused by the heat from the exchanger (IEC 60335-2-21) | | N/A |
| | The instructions for cistern-fed water heaters and low-pressure water heaters shall contain the substance of the following (IEC 60335-2-21): Warning : Do not connect any pressure-relief device to the vent pipe of this water heater | | N/A |
| 7.12.2 | Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|--|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 7.12.3 | Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected | | N/A |
| 7.12.4 | Instructions for built-in appliances: | | |
| | - dimensions of space | | N/A |
| | - dimensions and position of supporting and fixing | | N/A |
| | - minimum distances between parts and surrounding structure | | N/A |
| | - minimum dimensions of ventilating openings and arrangement | | N/A |
| | - connection to supply mains and interconnection of separate components | | N/A |
| | - allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless | | N/A |
| | a switch complying with 24.3 | | N/A |
| 7.12.5 | Replacement cord instructions, type X attachment with a specially prepared cord | | N/A |
| | Replacement cord instructions, type Y attachment | | P |
| | Replacement cord instructions, type Z attachment | | N/A |
| 7.12.6 | Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard | Not reset by disconnection of supply mains | N/A |
| 7.12.7 | Instructions for fixed appliances stating how the appliance is to be fixed | | N/A |
| 7.12.8 | Instructions for appliances connected to the water mains: | | |
| | - max. inlet water pressure (Pa)..... | 0,5MPa | P |
| | - min. inlet water pressure, if necessary (Pa) | 0,1MPa | P |
| | Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets | | N/A |
| 7.12.9 | Instructions specified in 7.12 and from 7.12.1 to 7.12.8 appear together before any other instructions supplied with the appliance | | P |
| | These instructions may be supplied with the appliance separately from any functional use booklet | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|--------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | They may follow the description of the appliance that identifies parts, or follow the drawings/sketches | | P |
| | In addition, instructions are also available in an alternative format such as on a website or on request from the user in a format such as a DVD | | N/A |
| | In addition, instructions are also available in an alternative format such as on a website or in a format such as a DVD..... | Website or similar means | P |
| 7.13 | Instructions and other texts in an official language | | P |
| 7.14 | Markings clearly legible and durable: | | |
| | Signal words WARNING, CAUTION, DANGER in uppercase having a height as specified.. | | P |
| | Uppercase letter of the text explaining the signal word not smaller than 1,6 mm | 3,5mm | P |
| | Moulded in, engraved, or stamped markings either raised above or have a depth below the surface of at least 0,25 mm, unless | 1,6mm | P |
| | contrasting colours are used | | N/A |
| | Markings checked by inspection, measurement and rubbing test as specified | | P |
| 7.15 | Markings on a main part | | P |
| | Marking clearly discernible from the outside, if necessary after removal of a cover | | P |
| | For portable appliances, cover can be removed or opened without a tool | | N/A |
| | For stationary appliances, name, trademark or identification mark and model or type reference visible after installation | | N/A |
| | For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions | | P |
| | Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading | | P |
| | Marking on panel allowed, provided panel in place for intended operation of appliance (IEC 60335-2-40) | | N/A |
| 7.16 | Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|-----------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 7.101 | Marking of fuses and overload protective devices, if replaceable (IEC 60335-2-40): | | P |
| | - fuse rated current in amperes, type and rated voltage | | P |
| | - manufacturer and model of the overload protective device | | N/A |
| | The water inlet and the water outlet shall be identified. (IEC 60335-2-21) | | P |
| | This identification shall not be on detachable parts. | By words for the water flow | P |
| | If colours are used, blue shall be used for the inlet and red for the outlet. | | N/A |
| | An alternative means of identification may be by means of arrows showing the direction of the water flow | | N/A |
| 7.102 | Marking for connection with aluminium wire, if necessary (IEC 60335-2-40) | | P |
| 7.103 | For appliances made up of more than one factory made assembly specified by the manufacturer to be used together, instructions shall be provided for completing the assembly to ensure compliance with the requirements (IEC 60335-2-40) | | N/A |
| 7.104 | For partial units, the instructions or markings shall include the following additional information. (IEC 60335-2-40) | | N/A |
| | For evaporating units and condensing units, the instructions or markings shall include wording to assure that the maximum operating pressure is considered when connecting to any condenser unit or evaporator unit. | | N/A |
| | For evaporating units, condensing units and condenser units, the instructions or markings shall include refrigerant charging instructions | | N/A |
| | A warning to assure that partial units shall only be connected to an appliance suitable for the same refrigerant. | | N/A |
| | This unit <model xxx> is a partial unit air conditioner, complying with partial unit requirements of this International Standard, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of this International Standard. | | N/A |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | The electrical interfaces shall be specified with purpose, voltage, current, and safety class of construction. | | N/A |
| | The SELV connection points, if provided, are to be clearly indicated in the instructions. The connection point should be marked with the "read the instructions" symbol per ISO 7000-0790 (2004-01) and the Class III symbol according to IEC 60417-5180 (2003-02). | | N/A |
| 7.105 | For appliances using flammable refrigerants that have safety features depending upon the proper function of a refrigerant detecting system, the instructions or unit markings contain the substance of the following: (IEC 60335-2-40) | | N/A |
| | "This unit is equipped with a refrigerant leak detector for safety. To be effective, the unit must be electrically powered at all times after installation, other than when servicing." | | N/A |
| | If any supplemental unit is employed to detect leaked refrigerant, such unit shall also apply this marking or be accompanied by such instructions. | | N/A |
| 7.106 | For appliances using flammable refrigerants that have safety features depending upon the proper function of ventilation, the instructions or unit markings shall contain the substance of the following: (IEC 60335-2-40) | | N/A |
| | "This unit is equipped with electrically powered safety measures. To be effective, the unit must be electrically powered at all times after installation, other than when servicing." | | N/A |
| | If any supplemental unit is employed to dilute leaked refrigerant, such unit shall also apply this marking or be accompanied by such instructions. | | N/A |
| 7.107 | For flammable refrigerants, when addition of charge is required by the manufacturer installation instructions for completing the refrigerating system, the manufacturer provides a label that allows the installer to note the resulting total refrigerant charge for each refrigerating system. See Figure 101 for an example of label for field charged units (IEC 60335-2-40) | | P |
| 7.108 | For appliances using flammable refrigerants, the flame symbol described in 7.6 be visible in each of the following conditions (IEC 60335-2-40) | | P |
| | - on the packaging of the appliance if the appliance is charged with refrigerant excluding appliances with A2L refrigerant charge not exceeding m1; | | P |
| | - when viewing the appliance on display for sale. This does not apply to appliances using A2L refrigerants. | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | For appliances that are not factory sealed single packaged units, the required markings shall be provided on all indoor and outdoor units which complete the refrigerating system. | | P |
| 7.109 | Appliances employing UV-C germicidal lamp systems shall be marked with ultraviolet radiation hazard symbol IEC 60417-6040 (2010-08) and the Read operator's manual symbol ISO 7000-0790 (2004-01) in the following locations (IEC 60335-2-40) | | N/A |
| | - doors and access panels that provide direct access to an area within the appliance where the measured UV-C spectral irradiance is greater than 1,7 $\mu\text{W}/\text{cm}^2$; | | N/A |
| | - user maintenance access panels | | N/A |
| | - UV-C barriers | | N/A |
| 7.110 | For appliances that employ UV-C germicidal lamp systems, the instructions include the substance of the following: (IEC 60335-2-40) | | N/A |
| | - this appliance contains a UV-C lamp; | | N/A |
| | - read the maintenance instructions before opening the appliance; | | N/A |
| | - details for cleaning and other user maintenance of the appliance. They shall state that prior to cleaning or other maintenance, the appliance must be disconnected from the supply mains; | | N/A |
| | - precautions to be taken when replacing UV-C emitters and starters, if applicable; | | N/A |
| | - unintended use of the appliance or damage to the housing may result in the escape of dangerous UV-C radiation. UV-C radiation may, even in small doses, cause harm to the eyes and skin; | | N/A |
| | - the appliance must be disconnected from the supply before replacing the UV-C lamp; | | N/A |
| | - doors and access panels bearing the ultraviolet radiation hazard symbol which may have UV-C spectral irradiance greater than 1,7 $\mu\text{W}/\text{cm}^2$ are provided with an interlock switch to interrupt the power to the UV-C lamps for your safety. Do not over-ride; | | N/A |
| | - before opening doors and access panels bearing the ultraviolet radiation hazard symbol for the conducting user maintenance, it is recommended to disconnect the power; | | N/A |
| | - UV-C barriers bearing the ultraviolet radiation hazard symbol should not be removed; | | N/A |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - for appliances with UV-C lamps, information on the replacement of UV-C lamps shall be given, including the model and/or part number; | | N/A |
| | - if field installed, the factory specified UV-C germicidal lamp systems approved for use with the subject product shall be specified in the instructions by the specific model number; | | N/A |
| | - do not operate UV-C lamps outside of the appliance. | | N/A |
| 7.111 | For appliances employing refrigerating systems with maximum allowable pressures greater than 7 MPa, the instructions shall include the substance of the following: (IEC 60335-2-40) | | N/A |
| | - WARNING: System contains refrigerant under very high pressure. The system must be serviced by qualified persons only. | | 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 | | N/A |
| | Relays tested as part of the appliance, or | | P |
| | alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1 | | N/A |
| | The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance | | P |
| | Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard | | P |
| | 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections | | 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 | | 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 | | N/A |
| | If these conditions are not satisfied, the component is tested as part of the appliance. | | N/A |

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|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance | | N/A |
| | 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 been 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) | | P |
| 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 | | N/A |
| | Safety isolating transformers complying with IEC 61558-2-6 | | N/A |
| | If they have to be tested, they are tested according to Annex G | | P |
| 24.1.3 | Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000 | | N/A |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 starting 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 (3 000 | | N/A |
| | - voltage maintained non-self-resetting thermal cut-outs: 1 000 | | N/A |
| | - other non-self-resetting thermal cut-outs: (IEC 60335-2-40): 300 | | P |
| | - timers: 3 000 | | N/A |
| | - energy regulators: 10 000 | | N/A |
| | - thermostats which control motor-compressor (IEC 60335-2-40): 100 000 | | N/A |
| | - motor-compressor starting relays (IEC 60335-2-40): 100 000 | | N/A |
| | - automatic thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC 60335-2-40): min 2 000 | | N/A |
| | - manual reset thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC 60335-2-40): 50 | | N/A |
| | - other automatic thermal motor protectors (IEC 60335-2-40): 2 000 | | N/A |
| | - other manual reset thermal motor protectors (IEC 60335-2-40): 30 | | N/A |
| | - refrigerant detection systems self-resetting 300 | | N/A |
| | - refrigerant detection systems non self-resetting 30 | | N/A |
| | - electromechanical proof of airflow control 100000 | | N/A |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - self-resetting electrical pressure-limiting device 3000 | | N/A |
| | - non-self-resetting electrical pressure-limiting device 300 | | N/A |
| | The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited | | P |
| | 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 | | N/A |
| | Thermal cut-outs incorporated in closed water heaters shall comply with the requirements of IEC 60730-1(EN 60730-1)for type 2B controls, unless they are tested with the appliance. (IEC 60335-2-21) | | N/A |
| 24.1.5 | Appliance couplers complying with IEC 60320-1 | | N/A |
| | However, for class II 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 |
| 24.1.6 | 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 |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | 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 | 100 000 cycles | P |
| 24.2 | Appliances not fitted with: | | - |
| | -switches, automatic controls or power supplies in flexible cords | | P |
| | - 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 | | P |
| | the solder has a melting 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 |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 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 S2 or S3 according to IEC 60252-1 | | N/A |
| | - 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 | Thermal cut-outs shall be non-self-resetting. They shall have a trip-free switching mechanism or be located so that they can only be reset after removal of a non-detachable cover. (IEC 60335-2-21) | | P |
| | Replaceable parts of thermal control devices identified by marking (IEC 60335-2-40) | | N/A |
| 24.102 | Pressure-limiting devices used in transcritical refrigerating systems complies with IEC 60730-2-6 and (IEC 60335-2-40) | | N/A |
| | - be of type 2A or 2B; | | N/A |
| | - have a trip free mechanism of type 2 J | | N/A |
| | - the deviation and drift not exceed + 0 %. | | N/A |
| | The operating temperature of the thermal cut-out of a closed water heater shall ensure that the water temperature cannot exceed either 99 °C or that the thermal cut out operate before its temperature exceeds 110 °C (IEC 60335-2-21) | | P |
| 24.102.1 | Tested as specified (IEC 60335-2-21) Water temperature not exceeding 99°C | | N/A |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|----------------------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | If compliance relies on the operation of an electronic circuit, the test is repeated under the following conditions applied separately: – the fault conditions in a) to g) of 19.11.2 applied one at a time to the electronic circuit; – the electromagnetic phenomena tests of 19.11.4.1 to 19.11.4.7 applied to the appliance. The temperature of the water at the outlet shall not exceed 99 °C during or after each of the tests | | N/A |
| | If the electronic circuit is programmable, the software shall contain measures to control the fault/error conditions specified in Table R.1 and is evaluated in accordance with the relevant requirements of Annex R. | | N/A |
| 24.102.2 | Tested as specified The thermal cut-off temperature shall operate before its temperature exceeds 110°C. The water temperature shall not exceed 20K of the maximum permitted operating temperature of the thermal cut-out. (IEC 60335-2-21) | Max. water temp.: 102,8°C. | P |
| | If compliance relies on the operation of an electronic circuit, the test is repeated under the following conditions applied separately: – the fault conditions in a) to g) of 19.11.2 applied one at a time to the electronic circuit; – the electromagnetic phenomena tests of 19.11.4.2 and 19.11.4.5 applied to the appliance. The temperature of the water at the outlet shall not exceed 110 °C during or after each of the tests. | | P |
| EE | ANNEX EE (NORMATIVE) (IEC 60335-2-40) PRESSURE TESTS | | - |
| EE.1 | General | | - |
| | All refrigerating system parts shall withstand the maximum allowable pressure expected in normal operation, abnormal operation, and standstill. | | P |
| | compressor tested for compliance with IEC 60335-2-34 need not be additionally tested. | | P |
| EE.2 | Pressure test value determined under testing carried out in Clause 11 | | - |
| | A refrigerating system component that is exposed to pressure shall be subjected to measurement of the maximum allowable pressure developed in the refrigerating system when tested under the conditions specified in Clause 11. | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | The pressure test value shall be at least three times the maximum allowable pressure developed during operation under Clause 11. | | P |
| EE.3 | Pressure test value determined under testing carried out in Clause 19 | | - |
| | A refrigerating system component that is exposed to pressure shall be subjected to measurement of the maximum allowable pressure developed in the refrigerating system when tested under the conditions specified in Clause 19. | | P |
| | The pressure test value shall be at least three times the maximum allowable pressure developed during abnormal operation (see Clause 19). | | P |
| EE.4 | Pressure test value determined under testing carried out under standstill conditions | | - |
| EE.4.1 | In order to determine the standstill pressure, the appliance shall be soaked in the highest operating temperature specified by the manufacturer for 1 h with power off. | | P |
| | A refrigerating system component that is exposed only to low side pressure shall be subjected to measurement of the maximum allowable pressure developed in the refrigerating system under the condition of standstill. | | P |
| | The pressure test value shall be at least three times the maximum allowable pressure developed during standstill. | | P |
| | Pressure gauges and control mechanisms need not be subjected to the test, provided the parts meet the requirements of the component. | | P |
| EE.4.2 | The pressure test shall be carried out on three samples of each component. The test samples are filled with a liquid, such as water, to exclude air and are connected in a hydraulic pump system. The pressure is raised gradually until the required test pressure is reached. The pressure is maintained for at least 1 min, during which time the sample shall not leak. | | P |
| | Where gaskets are employed for sealing parts under pressure, leakage at gaskets is acceptable, provided the leakage only occurs at a value greater than 120 % of the maximum allowable pressure and the test pressure is still reached for the specified time. Additional sealing measures, such as an "O" ring, for pressure testing may be provided. | | P |
| EE.5 | Fatigue test option for Clause EE.1 and EE.4.2 | | - |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|---|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| EE.5.1 | The components shall be subjected to a test at 66,7 % of the test pressure determined by Clauses EE.2, EE.3 or EE.4, provided the components comply with the fatigue test in Clause EE.5. This test is conducted on a separate sample. | | P |
| EE.5.2 | Three samples of each refrigerant-containing part shall be tested at the cyclic pressure values specified in EE.5.7 and EE.5.8 for the number of cycles specified in EE.5.6, as described in EE.5.4. | | P |
| EE.5.3 | The samples shall be considered to comply with EE.5.5 on completion of the test and if they do not rupture, burst, or leak. | | P |
| EE.5.4 | The test samples shall be filled with fluid, and shall be connected to a pressure driving source. The pressure shall be raised and lowered between the upper and lower cyclic values at a rate specified by the manufacturer. The pressure shall reach the specified upper and lower values during each cycle. The shape of the pressure cycle shall be such that the upper and lower pressure values shall be maintained for at least 0,1 s. | | P |
| | the operating temperatures of the appliance under the conditions of steady state operation of Clause 11 are less than or equal to 125 °C for copper or aluminium, or 200 °C for steel, the test temperature of the component part or assembly shall be at least 20 °C. | | P |
| | If the continuous operating temperature of the component exceeds 125 °C for copper or aluminium, or 200 °C for steel, the test temperature of the parts or assemblies that are at these temperatures, and subjected to the pressure, shall be at least 25 °C greater than the temperature of the part measured during the test of Clause 11 for copper or aluminium and 60 °C higher for steel. | | P |
| | For other materials, the effects of temperature on the material fatigue characteristics shall be evaluated by conducting the test at the higher temperatures and considering the material characteristics at the higher temperatures. | | P |
| EE.5.5 | The pressure for the first cycle shall be the maximum evaporating pressure for low-pressure side components or the maximum condensing pressure for the high-pressure side components. | | P |
| EE.5.6 | The total number of cycles shall be 250 000. The test pressures shall be determined by EE.5.7 (except the first and last cycles as noted in EE.5.5 and EE.5.8). | | P |
| EE.5.7 | The pressure for the test cycles shall be as follows: | | P |

| IEC 60335-2-21 & 60335-2-40 | | | |
|-----------------------------|--|-----------------|---------|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | a) For components subject to high side pressures, the upper pressure value shall not be less than the saturated vapour pressure of the refrigerant at 50 °C and the lower pressure value shall not be greater than the saturated vapour pressure of the refrigerant at 5 °C. For hot water heat pumps, the upper pressure shall not be less than 80 % of the maximum allowable pressure under the conditions of Clause 11. | | P |
| | b) For components subjected to only low side pressures, the upper pressure value shall be not less than the saturated vapour pressure of the refrigerant at 30 °C and the lower pressure value shall be between 0 bar and the greater of 4,0 bar or the saturated vapour pressure of the refrigerant at – 13 °C. | | P |
| EE.5.8 | For the final test cycle, the test pressure shall be increased to two times the minimum upper pressure specified in EE.5.7. | | P |

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| 24.1 | TABLE: Critical components information | | | | | P |
|---|---|----------------------------|---|---|----------------------------------|---|
| Object / part No. | Manufacturer/ trademark | Type / model | Technical data | Standard | Mark(s) of conformity | |
| Supply cord | Guangdong Huasheng Electrical Appliances Co., Ltd. | H05RR-F or H07RN-F | 3G1,5mm ² | EN 50525-2-21:2011 | VDE 40016788 | |
| Alt. | Guangdong Huasheng Electrical Appliances Co., Ltd. | H05RR-F or H07RN-F | 3G1,5mm ² | EN 50525-2-21:2011 | VDE 40030537 | |
| Alt. | Guangdong Rifeng Electrical Cable Co., Ltd. | H05RR-F or H07RN-F | 3G1,5mm ² | EN 50525-2-21:2011 | VDE 40015999 | |
| Inductor ring | QINGDAO YUNLU ENERGY TECHNOLOGY CO.,LTD | YL-16A | In: DC12mA, Out: max. 45mV | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance | |
| P/T Valve | Australian Valve Group Pty Ltd | PTR20 | 700kPa,46KW; MAX TEMP:99°C | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance WMKA2639 | |
| Terminal block | Nantong Huaguan Electric Co., Ltd | JXW-2-E | AC 600V; 30A | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance VDE 40013197 | |
| Alt. | Nantong Huaguan Electric Co., Ltd | JXW-2-E | AC 600V; 30A | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance & UL E257297 | |
| All-pole disconnect ion thermal cut-out | Changzhou Foland Electrical Appliance Co., Ltd. | WY-S | AC250V, 20(3)A, 1000 cycles, T140, Tf=103,5±6,5°C; Type 2.B | EN 60730-2-9:2019 EN 60730-1:2016 | VDE 40000596 | |
| Compressor | Shanghai Highly Electrical Appliances Co., Ltd. | WHP0200 0PCKQF3 BU6B | 220-240V~, 50/60Hz, R290 | EN 60335-1:2012+A11 EN 60335-2-34:2013 | TUV R 50459420 | |
| Pressure switch | Changzhou Match-well Pressure Control Technique Co., Ltd. | YK-3.3/2.65 | AC250V, 3A, close: 2,65MPa open: 3,3MPa | EN 60730-2-6:2016 EN 60730-1:2016 | VDE 40000571 | |
| Fan motor | Wolong Electric (Jinan) Motor Co., Ltd | WZD-A05025D-02A | DC 310V, 25W, ClassB, protection Class IP44 | EN 60335-2-40:2003/A 12:2012 EN 60335-1:2012/A 15:2021 | TUV No.N8A 046222 0056 | |
| Heater | Hangzhou Heatwell Electric Heating Technology Co., Ltd | 1500W | AC230V, 1500W | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance | |
| 4-way valve | Zhejiang Dun'an Artificial Environment Co. Ltd. | DSF-3-1233M | AC 220-240V, 5-7W, Class B | EN 60730-1:2016+A1+A2 | VDE 40013212 | |
| Electronic expansion valve | Zhejiang Dun'an Artificial Environment Co., Ltd. | DPF1.3C Coil No. DPF06-133 | DC 12V | EN 60730-1:2016+A1+A2 | VDE 40044098 | |

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|-----------------------------|--|-------------|--|--|----------------------------------|
| display board | Qingdao intelligent electronic Technology Co., LTD | / | DC12V | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance |
| main control board | Anhui Zhongjia Zhikang Technology Co., LTD | / | AC220V | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance |
| wifi module | Jiang su Fulian Communication Technology Co., LTD | / | DC3.3V | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance |
| Internal Wire | Weihai Honglin Electronic Co., Ltd. | 1015 | AWG14/16/18, 105°C | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance & UL E239426 |
| Alt. | XinYa Electronic Co., Ltd. | 1015 | AWG14/16/18, 105°C | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance & UL E170689 |
| Alt. | Hefei Deren Electronic Device Co., Ltd. | 1015 | AWG14/16/18, 105°C | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance & UL E338621 |
| Alt. | Qingdao Riken Wire & Cable Co., Ltd. | 3173 | AWG16, 125°C | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance & UL E212103 |
| Alt. | Weihai Honglin Electronic Co., Ltd. | 3173 | AWG16, 125°C | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance & UL E239426 |
| Alt. | XinYa Electronic Co., Ltd. | 3173 | AWG16, 125°C | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance UL E170689 |
| transformer | Qingdao Jingshi Group Co., Ltd. | BK-22-0015 | Input: AC90-264V, 50/60Hz; Output: DC12V Class B | EN 61558-1:2005+A1 EN 61558-2-16:2009 + A1:2013 | VDE 40038154 |
| Alt. | Wuxi Derun Electron Co.,Ltd. | DC26-00031F | Input: AC85-264V, 50/60Hz. Output: DC12V Class B | EN 61558-1:2005+A1 EN 61558-2-16:2009 + A1:2013 | TÜV SÜD B 086890 0003 Rev. 01 |
| X2 Capacitor 1 | Ultra Tech Xiphi Enterprise Co. Ltd. | HCR/HQXR | AC250/275/300/310/330V; 40/110/56/B,0.01uF,120Ω | EN 60384-14:2013+A1:2016 | VDE 40047995 |
| Alt. | JIMSON ELECTRONICS (XIAMEN) CO., LTD. | RC | AC300V,40/100/21/B, 0.01uF,120Ω | EN 60384-14:2013+A1:2016 | VDE 40010496 |
| X2 Capacitor 2 | Xiamen Faratronic Co.,Ltd. | MKP62 | AC250V/275V/AC305V/AC310V 40/110/56/B or 40/105/56/B or 40/100/56/B; 0,01μF; 0,1μF; 0,22μF;0,47μF; 1uF; 2,2μF | EN 60384-14:2013+A1:2016 | VDE 40000358 |

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|-----------------------------|---|--------------|---|----------------------------------|-----------------|
| Alt. | Xiamen Faratronic Co.,Ltd. | MKP61 | AC275V/AC305V ; 40/110/56/B or 40/100/56/B; 0,01µF; 0,1µF;0,22µF; 0,47µF; 1uF; 2,2µF | EN 60384- 14:2013+A1:201 6 | VDE 40007424 |
| Alt. | Nistronics (Jiangxi) Co., Ltd. | MPR | AC275V/AC310V ; 40/100/21/B or 40/110/56/B; 0,01µF; 0,1µF; 0,22µF;0,47µF; 1uF; 2,2µF | EN 60384- 14:2013+A1:201 6 | VDE 40032056 |
| Alt. | TDK (Zhuhai FTZ) Co., Ltd. | B3292 Series | AC305V; 40/105/56/B; 0,01µF; 0,1µF; 0,22µF;0,47µF; 1uF; 2,2µF | EN 60384- 14:2013+A1:201 6 | VDE 40010694 |
| Alt. | Guangdong Fengming Electronic Tech.Co.,Ltd. | MKP-X2 | AC275V/AC305V/AC310V; 40/105/21/B or 40/085/21/B or 40/110/56/B or 40/110/56/B; 0,01µF; 0,1µF; 0,22µF;0,47µF; 1uF; 2,2µF | EN 60384- 14:2013+A1:201 6 | VDE 40025702 |
| Alt. | Ultra Tech Xiphi Enterprise Co. Ltd. | HQX | AC250/275/280/300/305/310V; 40/110/56/B or 40/110/56/C; 0,01µF; 0,1µF; 0,22µF; 0,47µF; 1,0µF,2.2uF | EN 60384- 14:2013+A1:201 6 | VDE 40024534 |
| Alt. | JIMSON ELECTRONICS (XIAMEN) CO., LTD. | MKP | AC250V/AC275V ; 40/100/21/B; 0,01µF; 0,1µF;0,22µF; 0,47µF; 1uF; 2,2µF | EN 60384- 14:2013+A1:201 6 | VDE 40000463 |
| Alt. | Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd. | MPX | AC275/305/310V; 40/110/56/B; 0,01µF; 0,1µF; 0,22µF; 0,47µF; 1,0µF,2.2uF | EN 60384- 14:2013+A1:201 6 | VDE 40034679 |
| Y Capacitor | Capatronics Electronics (Kunshan) Co., Ltd. | Y5P/Y5V/ Y5U | Y1:AC400V; Y2: AC250V; 20/125/21/C; Y2: 2200pF; 4700pF; 10000pF | EN 60384- 14:2013+A1:201 6 | VDE 40013317 |
| Alt. | TDK Corporation | CD | AC 250V/400V; 55/125/21/B; Y1; 2200pF; 4700pF | EN 60384- 14:2013+A1:201 6 | VDE 40017931 |
| Alt. | TDK Corporation | CS | AC250/300V; 55/125/21/B; Y2; 2200pF; 4700pF; 10000pF | EN 60384- 14:2013+A1:201 6 | VDE 40017930 |
| Alt. | Yinan Don's Electronic Component Co.,Ltd. | CT81 | Y1:AC400V; Y2: AC250V 25/125/21/C; Y1; 2200pF; 4700pF; 10000pF Y2; 2200pF; 4700pF; 10000pF | EN 60384- 14:2013+A1:201 6 | VDE 135256 |

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|-----------------------------|---|----------------|--|--|---|
| Alt. | Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd. | CD | Y5P;Y5U;Y5V; X1Y1; AC 250 /400/500 V; 40/125/21/B; Y2; 2200pF; 4700pF; | EN 60384-14:2013+A1:2016 | VDE 40025754 |
| Alt. | Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd. | CE | Y5P; Y5U; Y5V; X1Y2; AC250V; 25/125/21/C; Y2; 2200pF; 4700pF; 10000pF | EN 60384-14:2013+A1:2016 | VDE 40025748 |
| Fuse | DongGuan Better Electronic Co., Ltd. | 524 Series | 10A/250V | EN 60127-1:2006+A1:2011+A2:2015 EN 60127-2:2014 | VDE 40020107 |
| Alt. | Suzhou Littelfuse OVS Ltd. | 215 Series | 10A/250V | EN 60127-1:2006+A1:2011+A2:2015 EN 60127-2:2014 | VDE 40013521 |
| Alt. | Sun Electric Co. | 5H Series | 10A/250V | EN 60127-1:2006+A1:2011+A2:2015 EN 60127-2:2014 | TUV J50220933 |
| Relay 1 | Xiamen Hongfa Electroacoustics Co., Ltd. | HF102F/1 2VDC | AC 250V; DC12V; 10E4; 20A; 25T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | VDE 40024142 IECEX 64.105.16.0 0159.03 |
| Alt. | Zhejiang Meishuo Electric Technology Co., Ltd. | MPY-S-112-A | AC 250V; DC12V; 10E4; 20A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | TUV R50204088 & TUV AK50410083 |
| Alt. | WangRong Electronics (Shenzhen) Co. Ltd. | RF-SS-112DMF | AC250V; DC12V; 10E4; 20A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | TUV R50194013 & TÜV SÜD NO. D 105370 0002 |
| Alt. | Sanyou Corporation Limited | SFK-112DM3 | AC250V; DC12V; 10E4; 20A; 30T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | VDE 40007481 TUV AK 50464382 |
| Relay 2 | Zhejiang Meishuo Electric Technology Co., Ltd. | MPJ-S-112-A-2F | AC 250V; DC12V; 10E4; 16A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | TÜV R50294981 & TUV AK50396772 |
| Alt. | Sanyou Corporation Limited | SMIH-SH-112LM | AC 277V; DC12V; 10E4; 17A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | VDE 40034054 TUV AK 50461277 |

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|-----------------------------|--|----------------------------------|-----------------------------------|--|--|
| Alt. | WangRong Electronics (Shenzhen) Co. Ltd. | RMIH-SS-112LM-S | AC277V; DC12V; 10E4; 16A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | TUV R50242245 & TUV AK 50419950 0003 |
| Relay 3 | Xiamen Hongfa Electroacoustics Co., Ltd. | HF46F/12-HS1 (335) | AC250V; DC12V; 10E4; 5A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | VDE 40025215 IECEx 64.105.19.3 0606.02 |
| Alt. | Zhejiang Meishuo Electric Technology Co., Ltd. | MPR-S-112-A | AC250V; DC12V; 10E4; 5A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | TUV R50217035 & TUV AK5039677 3 |
| Alt. | WangRong Electronics (Shenzhen) Co. Ltd. | RC-112DM1FH | AC250V; DC12V; 10E4; 5A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | TÜV R50220640 & TÜV SUD NO.D 105370 0001 |
| Alt. | Sanyou Corporation Limited | SRB-SH-112DM2 | AC277V; DC12V; 10E4; 5A; 40T85 | EN 61810-1:2015+A1:2020 EN 60079-15:2010 | VDE 40033402 |
| Optocoupler | Lite-on Technology Corporation | LTV-817 | 890V peak; T115; Cr.&Cl.>=7,0mm | EN IEC 60747-5-5:2020 | VDE 40015248 |
| Alt. | Everlight Electronics Co., Ltd. | EL817 | 850V peak; T110; Cr. & Cl.>=7,6mm | EN IEC 60747-5-5:2020 | VDE 132249 |
| Alt. | Sharp Corporation Electronic Components Group | PC817 | 890V peak; T110; Cr. & Cl.=6,4mm | EN IEC 60747-5-5:2020 | VDE 40008087 |
| Alt. | Shenzhen Orient Components Co. Ltd. | ORPC-817 | 850V peak; T110; Cr. & Cl.>=7,6mm | EN IEC 60747-5-5:2020 | VDE 40029733 |
| Varistor | TDK Electronics GmbH & Co OG | S14K350 M4T6 | 560V; 40T105 | EN IEC 61051-2:2021 EN IEC 61051-1:2018 | VDE 40027582 |
| Alt. | Thinking Electronic Industrial Co., Ltd. | TVR14561 KB286Y | 560V; 40T105 | EN IEC 61051-2:2021 EN IEC 61051-1:2018 | VDE 005944 |
| PCB material | NIPPON(BOLUO)ELECTRONICS Co.,Ltd. | Q2-3/D2/KB-6160/KB-6160C | 1,6mm; V-0 | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance & UL E56327 |
| Alt. | SHANTOU FENGLIDA ELECTRONICS TECHNOLOGY CO.,LTD. | FLD-04, KB-6160/KB-6160C, FLD-02 | 1,6mm; V-0 | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance & UL E347210 |

| IEC 60335-2-21 & 60335-2-40 | | | | | |
|---|---|--------------------|--|--|------------------------------------|
| Alt. | Jiangxi Xusheng Electronics Co | XS-M, XS-D | 1,6mm; V-0 | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance & UL E503744 |
| Alt. | Suizhou Kangmei Electronics Co.,LTD. | KM-D1 | 1,6mm; V-0 | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance & UL E511140 |
| Alt. | ANHUI MILAN ELECTRONIC TECHNOLOGY CO.,LTD. | *ML-1 | 1,6mm; V-0 | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance & UL E349902 |
| PTC | Thinking Electronic Industrial Co., Ltd. | PPL16500 YA2B7C8 L | 250VAC;47Ω (25°C); I _{max} 10A | EN 60738-1:2006+A1 EN 60738-1-1:2008 | TÜV R50426392 |
| Alt. | Dandong guotong electronic components co.,ltd | MZ-47R-A | 250VAC; 47Ω (25°C); I _{max} 10A | EN 60738-1:2006+A1 EN 60738-1-1:2008 | TÜV SÜD No. B067733 0003 Rev.00 |
| Alt. | ShenZhen AMPRON Technology co., Ltd. | MZ3247R | 250VAC; 47Ω(25°C); I _{max} 10A | EN 60738-1:2006+A1 EN 60738-1-1:2008 | TÜV R 50441353 |
| IPM module for Compressor | Infineon Technologies China Co., Ltd. | IKCM10H 60GA | 600V; 10A | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance |
| Discharge tube | TDK Electronics GmbH & Co OG | B88069X3 813A 153 | 3600V | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance |
| Alt. | OKAYA ELECTRIC INDUSTRIES CO LTD | RA-362MS-V7 | 3600V | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance |
| Alt. | Shenzhen Bencent Electronics Co., Ltd | B5G3600-G | 3600V | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance |
| PCB material for Display board | Nanya New Material Technology Co., Ltd. | / | FR-4 1,6mm | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Test with appliance VDE 40046120 |
| Alt. | JIANGXI RONGHUI ELECTRONICS CO LTD | / | FR-4 1,6mm | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance &UL E252098 |
| Alt. | Changzhou Aohong Electronics Co., Ltd | / | FR-4 1,6mm | EN 60335-2-40 EN 60335-2-21 EN 60335-1 | Tested with appliance &UL E303981 |
| Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039. | | | | | |

*** End of test report ***