



# Descriptive Report and Test Results

**MASTER CONTRACT:** 0000302422

**REPORT:** 80191058

**PROJECT:** 80191058

## EDITION

Edition	Issued On	Project	Location	Prepared By	Authorized By
Edition 1	January 05, 2024	80191058	Shanghai	Aaron Cheng	Aaron Cheng

## CONTENTS

Certificate of Compliance + Supplement - Page 1 to 4

Description and Tests - Page 1 to 33

Att1 Photos - 1 to 36

Att2 User Manual - Pages 1 to 30

Att3 Illustrations - 1 to 12 (Miscellaneous drawings)

Att4 Illustrations - 1 to 19 (Assembly product drawings)

## PRODUCTS

C121102 COMFORT CONDITIONING EQUIPMENT - Air Conditioning Apparatus

C121182 COMFORT CONDITIONING EQUIPMENT - Air Conditioning Apparatus - Certified to U.S. Standards

**Portable Air Conditioner, cord-connected, self-contained, indoor use**

Models	Voltage (V)	Frequency (Hz)	Cooling Current (A)	Heating Current (A)	Refrigerant Type	Refrigerant Weight (oz)
OL-A016**05RN3/*	115	60	7.0	7.2	R32	6.71
OL-A016**05N3/* A4216A-8K A4216B-8K	115	60	7.0	/	R32	6.71
OL-A016**06RN3/*	115	60	7.8	8.0	R32	6.0
OL-A016**06N3/* A4216A-10K A4216B-10K	115	60	7.8	/	R32	6.0

This report shall not be reproduced, except in full, without the approval of CSA Group.

**NOTE:**

- (1. The first \* represents the product appearance code, marked with the letters A~Z; )
- (2. The second \* represents the product top cover code, marked with the letters A~Z;)
- (3. The third \* indicates single additional function (represented by letter A-Z), combined function (represented by letter A-Z combination) or no additional function (blank) of the product;)

**APPLICABLE REQUIREMENTS**

Standards Used	Description
CSA C22.2 No. 60335-1-16 (Second Edition) / UL 60335-1 (Sixth Edition)	Household and similar electrical appliances - Safety - Part 1: General requirements
CAN/CSA C22.2 No. 60335-2-40:22 (IEC 60335-2-40:2018) (Sixth Edition)/ UL 60335-2-40(Fourth Edition)	Safety of household and similar electrical appliances Part 2: Particular requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers To be used in conjunction with CAN/CSA C22.2 No.60335-1:16 (IEC 60335 1:2010/AMD2:2016)

**MARKINGS**

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards).

The following markings appear on a CSA Accepted self-adhesive or UL Recognized adhesive-type nameplate on each unit:

- Submittor's name and/or CSA Master Contract number "302422" (adjacent to the CSA Monogram)
- Model designation;
- Electrical rating in volts, hertz, RATED POWER INPUT in watts or RATED CURRENT in amperes;
- Total input current;
- Name, trade mark or identification mark of the manufacturer or responsible vendor;
- Motor ratings (FLA, and Horsepower);
- Motor compressor ratings (RLA and LRA);
- Rating of over current protective device;
- Manufacturing date or date code;

- The mass of the refrigerant, or of each refrigerant in a blend other than those of the azeotropic type;
- The refrigerant identification;
- IP number, other than IPX0;
- The maximum allowable pressure or design pressure for the low-pressure side and the high-pressure side;
- Manufacturing location if the product is produced in more than one location.

Following markings, or the equivalent, shall be permanently affixed to the equipment in the location indicated when a flammable refrigerant is used:

1. The following markings, or the equivalent, shall be located on the outside of the unit when flammable refrigerants are employed:

WARNING – Risk Of Fire. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing.

WARNING – Risk Of Fire. Dispose Of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used.

In Canada, the equivalent French wording for the markings is as follows:

“MISE EN GARDE – Risque d’incendie. Contient un frigorigène inflammable. Confier la réparation à une personne qualifiée. Ne pas perforer la tubulure contenant le frigorigène.”

“MISE EN GARDE – Risque d’incendie. Mettre au rebut conformément aux règlements fédéraux ou locaux. Contient un frigorigène inflammable.”

2. The following markings, or the equivalent, shall be located inside of the product near the compressor when flammable refrigerants are employed:

WARNING – Risk Of Fire. Flammable Refrigerant Used. Consult Repair Manual/Owner’s Guide Before Attempting To Service This Product. All Safety Precautions Must Be Followed.

In Canada, the equivalent French wording for the marking is as follows:

“MISE EN GARDE – Risque d’incendie. Contient un frigorigène inflammable. Consulter la notice de réparation/utilisation avant de tenter de réparer ce produit. Respecter toutes les mesures de sécurité.”

3. The following markings, or the equivalent, shall be located on appliance packaging if factory charged when flammable refrigerants are employed:

WARNING – Risk of Fire due to Flammable Refrigerant Used. Follow Handling Instructions Carefully in Compliance with National Regulations.

In Canada, the equivalent French wording for the marking is as follows:

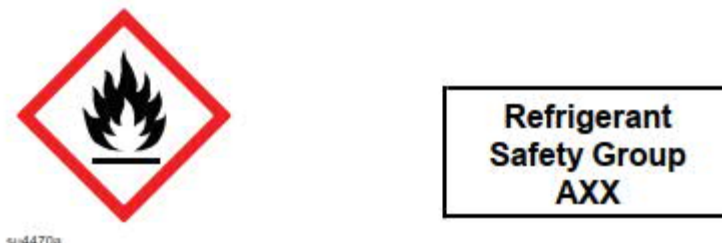
“MISE EN GARDE – Risque d’incendie en raison du frigorigène inflammable. Respecter le mode d’emploi pour assurer la conformité aux règlements nationaux”.

4. The following markings, or the equivalent, shall be located Indoor unit near nameplate when flammable refrigerants are employed:

Minimum installation height, X m and ft (if applicable), Minimum room area (operating or storage), Y m<sup>2</sup> and ft<sup>2</sup>

The markings specified from Item 1 to Item 4 above shall be in letters at least 3.2 mm (1/8-in) high.

5. For appliances using FLAMMABLE REFRIGERANTS, the flame symbol ISO 7010-W021 (2011-05) and the operator's manual symbol shall be visible when viewing the appliance after it has been installed. The marking may be behind a detachable part that has to be detached before maintenance or repair work. The perpendicular height of the triangle used for the symbol shall be at least 30 mm. For appliances that are not single packaged units, the required markings shall be provided on all indoor and outdoor units which complete the REFRIGERATING SYSTEM when installed.



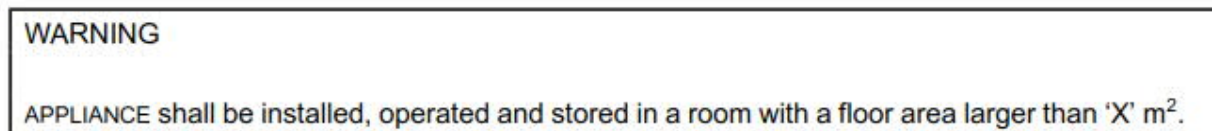
If an A2 or A3 flammable refrigerant is used, the air conditioning equipment shall have red (Pantone® Matching System (PMS) #185) marked service ports, pipes, hoses, and other devices through which the refrigerant is serviced. This colour shall be present at all service ports and where service puncturing or otherwise creating an opening from the refrigerant circuit to the atmosphere might be expected (e.g., process tubes). The colour mark shall extend at least 25 mm (1 inch) from the refrigerant servicing point and shall be replaced if removed.

Statement requiring that a damaged cord be replaced with one supplied by the unit manufacture and not repaired.

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 shall be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height of the symbol shall be at least 10 mm.

If a FLAMMABLE REFRIGERANT is used, an additional warning symbol (flame symbol: ISO 7010-W021 (2011-05)) shall be placed on the nameplate of the unit near the declaration of the refrigerant type and charge information. The perpendicular height of the symbol shall be at least 10 mm, and the symbol need not be in colour. When installed, the marking should be visible after removing a DETACHABLE part.

The following warning shall also be applied to the non-fixed appliance when a FLAMMABLE REFRIGERANT is employed. The warning shall be placed on the outside of the appliance such that it is visible when in service for NON-FIXED APPLIANCE.



If not already visible when accessing a SERVICE PORT and if a SERVICE PORT is provided, the SERVICE PORT shall be marked to identify the type of refrigerant. If the refrigerant is flammable, symbol ISO 7010-W021 (2011-05) shall be included, without specifying the colour.

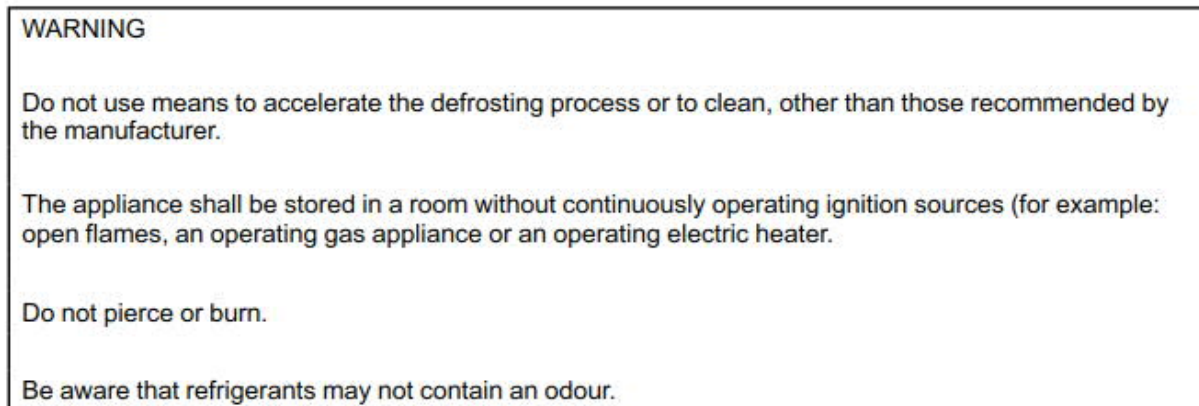
The instructions shall include information pertaining to the installation, handling, servicing and disposal of the appliance, it shall also contain the substance of the following:

This appliance is not intended for use 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 concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

- That the appliance shall be installed in accordance with national wiring regulations;
- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures;
- A wiring diagram with a clear indication of the connections and wiring to external control devices and SUPPLY CORD;
- Indication of which parts of the appliance are suitable for outdoor use, if applicable;
- Details of type and rating of fuses, or rating of circuit breakers
- A statement requiring that a damaged cord be replaced with one supplied by the unit manufacture and not repaired.
- If the SUPPLY CORD is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

The symbols (without colours is permitted) and the information of the warning marking shall be provided as follows:



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 of CAN/CSA C22.2 No. 60335-2-40:19, ANSI/UL 60335-2-40, Third Edition.

Clear wiring diagram and the method of connection of the appliance to the electrical supply shall state in the instruction.

### **INSTALLATION INSTRUCTIONS:**

Each unit is provided with installation and operating instructions. The installation instructions shall specify the installation manual.

### **Nameplate adhesive label material approval information:**

CSA Certified or UR Recognized according to C22.2 No. 0.15 Adhesive Labels and UL 969 Marking and Labeling Systems.

Manufacturer: AVERY DENNISON (CHINA) CO LTD UL (MH20558)

Designation: PET TC/S333

Rating: Maximum 150 °C for galvanized steel, Minimum -40 °C and Maximum 80°C for polystyrene

Applicable surface: Metals, Plastic

ALTERATIONS

1. The marking as noted above.

FACTORY TESTS

A. Electric strength test:

The equipment, upon completion of manufacture and before shipment, shall be subjected to a voltage of substantially sinusoidal waveform having a frequency of approximately 50 Hz or 60 Hz for 1 s. The value of the test voltage and the points of application are shown in table below:

Test Voltages			
Points of application	Test voltage (V)		
Between LIVE PARTS and ACCESSIBLE METAL PARTS separated from LIVE PARTS by:	Class I and Class II Appliances		Class III Appliances
	Rated Voltages		
	≤ 150 V	>150 V	
BASIC INSULATION only	800	1000	400
DOUBLE or REINFORCED Insulation *	2000	2500	-
*For CLASS I APPLIANCES, this test need not be carried out on parts of CLASS II CONSTRUCTION if the test is considered to be inappropriate.			

Note:

1. It may be necessary for the appliance to be in operation during the test to ensure that the test voltage is applied to all relevant insulation.
2. Breakdown is assumed to occur when the current in the test circuit exceeds 5 mA. However, this limit may be increased up to 30 mA for appliances with a high leakage current.
3. The circuit used for the test incorporates a current sensing device that trips when the current exceeds the limit.
4. The high voltage transformer is to be capable of maintaining the specified voltage at the limiting current.
5. Instead of being subjected to an a.c. voltage, the insulation may be subjected to a d.c. voltage of 1.5 times the value shown in the table above. An a.c. voltage having a frequency up to 5 Hz is considered to be a d.c. voltage.

B. Functional test

The correct functioning of an appliance is checked by inspection or by an appropriate test if the incorrect connection or adjustment of components has safety implications.

NOTE Examples are verification of the correct direction of motor rotation and the appropriate operation of interlock switches. This does not require testing of thermal controls or PROTECTIVE DEVICES.

C. Earth continuity test:

Each appliance that has a power-supply cord having a grounding conductor shall be tested, as a routine production-line test, to determine that grounding continuity exists between the grounding blade of the attachment plug and the accessible non-current carrying metal parts of the appliance that are likely to become energized.

Only a single test need be conducted if the accessible non-current carrying metal part selected is conductively connected by design to all other accessible non-current carrying metal parts.

Any suitable indicating device - an ohmmeter, a battery-and-buzzer combination, or the like - may be used to determine compliance with the grounding continuity.

#### **D. Refrigerant leakage test**

All refrigerant-containing parts of each unit shall be tested and proved tight at no less than the maximum allowable pressure as determined in Annex EE.2 on the high pressure side and Annex EE.4 on the low pressure side, but not less than the saturated pressure at 51,7°C on the high pressure side and 26,5°C on the low pressure side.

- a) 26.5°C (80°F) for low sides; and
- b) 51.7°C (125°F) for high sides.

A method other than the pressure testing at the above pressures may be employed if it can be demonstrated that the alternate test method produces results that are at least equivalent to the pressure test method.

If final assembly of the unit is completed with flare-type fittings or telescoped tubing joints that are sealed with silver solder, brazing, welding, or equivalent means. In this case, any components located on higher pressure sections of the system shall be individually tested by either the unit manufacturer or the manufacturer of the part at no less than the marked design pressure in which those components are used.

**Warning:** The factory test(s) specified may present a hazard of injury to personnel and/or property and should only be performed by persons knowledgeable of such hazards and under conditions designed to minimize the possibility of injury.

### **SPECIAL INSTRUCTIONS FOR FIELD SERVICES**

1. Component descriptions marked with either the "(INT)" or "(INT\*)" identifiers may be substituted with other components providing the requirements specified under the notes in the "Description" are complied with.

### **COMPONENT SPECIAL PICKUP**

1. Component descriptions marked with the identifier "(CT)" are subject to annual pickup and Conformity Testing.



## DESCRIPTION

### Notes:

#### 1. Component Substitution

- a) Critical components (those identified by mfr name, cat no), which are NOT identified with either "INT" or "INT\*" are not eligible for substitution without evaluation and report updating
- b) The term "INT" means a "Certified" and/or "Listed" (or a "Recognized" and/or "Accepted") component may be replaced by one "Certified" and/or "Listed" by another certification organization accredited by the appropriate accreditation body or scheme requirements to the correct standard, for the same application; providing the applicable country identifiers are included and requirements in item "d" below are complied with.
- c) The Term "(INT\*)" means a "Recognized" and/or "Accepted" component may be replaced by a component that is CSA Certified. The applicable country identifiers shall be included, the requirements in item "d" below as well as any "conditions of suitability" for the component (as recorded in this descriptive report) shall be complied with;
- d) Components which have been substituted, must be of an equivalent rating, configuration (size, orientation, mounting) and the applicable minimum creepage and clearance distances are to be maintained from live parts to bonded metal parts and secondary parts.
- e) Substitution of a "Certified" and/or "Listed" component with a component that is "Recognized" or "Accepted" is not permitted without evaluation and report updating.
- f) Substitution of a "Recognized" and/or "Accepted" component by one that is not CSA Certified is not permitted without a proper evaluation as well as a report update because the Conditions of Acceptance of the original component may be different than the Conditions of Acceptance of the substitute component.
- g) A component description marked with "UR Recognized" or "cUR Recognized" or "cURus Recognized" indicates that a component is UL Recognized and accepted for use in the end product described in this report based on UL Conditions of Acceptability. Conditions of Acceptability of UR Recognized components are based mainly on flammability ratings, electrical ratings, temperature, and number of cycles.

#### 2. Approval codes:

Certified = CSA Certified and suitable for the application.

Accepted = CSA Component Acceptance and suitable for the application.

UL Listed = UL Listed and suitable for the application.

UL Recognized = UL Recognized and suitable for the application.



This report covers portable air conditioner units, as described below:

Main electrical component configuration				
Main models	Compressor	Fan motor	Splash motor	Main control PCB
OL-A016**05N3/* A4216A-8K A4216B-8K	KSN66E01VZDX3	YSK95-65-4C	OL48-20	OL-A011-POWER-PLUS
OL-A016**05RN3/*	KSN66E01VZDX3			
OL-A016**06N3/* A4216A-10K A4216B-10K	KSN78E11VBZC1			
OL-A016**06RN3/*	KSN78E11VBZC1			

Model	Rating	Refrigerant
OL-A016**05N3/* A4216A-8K A4216B-8K	115 V~, 60 Hz, Cooling:7.0A;	Refrigerant: R32 (6.71oz) Design pressure: 260 psig (Low side), 550 psig (High side)
OL-A016**05RN3/*	115 V~, 60 Hz, Cooling:7.0A; Heating: 7.2A;	Refrigerant: R32 (6.71oz) Design pressure: 260 psig (Low side), 550 psig (High side)
OL-A016**06N3/* A4216A-10K A4216B-10K	115 V~, 60 Hz, Cooling:7.8A;	Refrigerant: R32 (6.0oz) Design pressure: 260 psig (Low side), 550 psig (High side)
OL-A016**06RN3/*	115 V~, 60 Hz, Cooling:7.8A; Heating: 8.0A;	Refrigerant: R32 (6.0oz) Design pressure: 260 psig (Low side), 550 psig (High side)

The models are similar with each other except as indicate below:

Reference Model	Similar Model	Differences
OL-A016**05RN3/* " Brand name: EURGEEN"	N/A	Basic model.
OL-A016**05N3/* " Brand name: EURGEEN"	OL-A016**05RN3/*	Different appearance, type designation, without heating function.
OL-A016**06RN3/* " Brand name: EURGEEN"	OL-A016**05RN3/*	Different appearance, type designation, heat exchanger, compressor, refrigerant mass and rating.
OL-A016**06N3/* " Brand name: EURGEEN"	OL-A016**06RN3/*	Different appearance, type designation, without heating function.
A4216A-8K " Brand name: ZAFRO"	OL-A016AA05N3	Different model name and brand name.
A4216B-8K " Brand name: ZAFRO"	OL-A016AB05N3	Different model name and brand name.

A4216A-10K " Brand name: ZAFRO"	OL-A016AA06N3	Different model name and brand name.
A4216B-10K " Brand name: ZAFRO"	OL-A016AB06N3	Different model name and brand name.

The description is supplemented with Att1 Photos and Att3&Att4 Illustrations.

Note: A copy of the user's manual is attached as Att2 User Manual.

Complete details of construction are as follows:

#### ELECTRICAL SPACINGS:

Unless otherwise noted in this Report, the spacing between uninsulated live parts of opposite polarity and between uninsulated live parts and dead-metal parts are not less than the following:

The CLEARANCES at terminals for the connection of field wiring are increased to 6.4 mm for RATED IMPULSE VOLTAGE of 1 500 V

#### CORROSION PROTECTION:

All ferrous metal parts used to support or retain electrical components in position are protected against corrosion by a zinc coating and painting.

#### CONSTRUCTION DESCRIPTION:

Appliances shall have no ragged or sharp edges, other than those necessary for the function of the appliance that could create a hazard for the user in normal use or during USER MAINTENANCE.

10. Unit Cabinet Assembly: See Att1 Photos 1 to 36.

Models: All.

- 10-10 Unit Enclosure: Include EVA filer frame parts.

Material Manufacturer: LG Chem Huizhou Petrochemical Co Ltd (E476284)

Material: ABS (HP181)

Thickness (mm): Min 1.6

Flammability: HB, RTI (90, 75, 85)

Dimensions (mm): See Att4 Illustrations

Alternative Material Manufacturer: NINGBO LG YONGXING CHEMICAL CO LTD (E203955)

Material: ABS (HI-121H)

Thickness (mm): Min 1.5

Flammability: HB, RTI (90, 80, 90)

Dimensions (mm): See Att4 Illustrations

Openings: Descript as follow:

- (a) Air inlet:

Models	OL-A016**05N3/*; OL-A016**05RN3/* OL-A016**06N3/*; OL-A016**06RN3/*
Dimensions(mm)	Up:240×210 Down:229×254

- (b) Air outlet:

Models	OL-A016**05N3/*; OL-A016**05RN3/* OL-A016**06N3/*; OL-A016**06RN3/*
Dimensions(mm)	Up:233×148 Down:130×92

Up Air outlet wire netting: Test accepted.

Material: Steel

Dimensions (mm): 133×141, each hole: 43.5×7

- 10-20 Main structure within units: Include water pan parts. See Att4 Illustrations

Material Manufacturer: LG Chem Huizhou Petrochemical Co Ltd (E476284)

Material: ABS (HP181)

Thickness (mm): Min 1.6

Flammability: HB, RTI (90, 75, 85)

Mounting: Secured by screws to unit frame.

Alternative Material Manufacturer: NINGBO LG YONGXING CHEMICAL CO LTD (E203955)

Material: ABS (HI-121H)

Thickness (mm): Min 1.5

Flammability: HB, RTI (90, 80, 90)

Mounting: Secured by screws to unit frame.

- 10-30 Air duct structure: See Att4 Illustrations

Material Manufacturer: LG Chem Huizhou Petrochemical Co Ltd (E476284)

Material: ABS (HP181)

Thickness (mm): Min 1.6

Flammability: HB, RTI (90, 75, 85)  
Mounting: Secured by screws to unit frame.

Alternative Material Manufacturer: NINGBO LG YONGXING CHEMICAL CO LTD (E203955)  
Material: ABS (HI-121H)  
Thickness (mm): Min 1.5  
Flammability: HB, RTI (90, 80, 90)

10-40 Main Control PCB Box: (For all models)  
Material Manufacturer: Zhejiang Oulun Electric Co., Ltd.  
Material: SECC  
Minimum Thickness (mm): Min 0.5  
Size (mm): See Att4 Illustrations  
Mounting: Fix on the plastic base and metal bracket with screws.

Main control PCB box cover: (For all models:)  
Material Manufacturer: Zhejiang Oulun Electric Co., Ltd.  
Material: SECC  
Minimum Thickness (mm): Min 0.5  
Size (mm): See Att4 Illustrations  
Mounting: Secured by screws to main control PCB box.

10-50 Universal wheel: Four provided, for all models:  
Material: PA+ Steel  
Diameter (mm):  $\Phi 30$   
Flammability: HB

20 Refrigeration System:  
Models: All.

Refrigerant Manufacturer: Various.  
Trade Name: R32 for all models.

20-10 Condenser: Test Accepted, suitable for use with R32, fin-tube, See Att4 Illustrations

<u>Manufacturer</u> :	Zhejiang Oulun Electric Co., Ltd.
<u>Designation</u> :	See Att4 Illustrations
<u>Tubing Material</u> :	Copper
<u>Tubing OD (mm)</u> :	$\emptyset 5$
<u>Tubing Wall Thickness (mm)</u> :	0.22
<u>Return Bend OD (mm)</u> :	$\emptyset 5$
<u>Return Bend Thickness (mm)</u> :	0.22
<u>Corrosion Protection</u> :	Inherent
<u>Bonding for Grounding</u> :	Assembly screws

Physical Size Finned Section (mm): Describe as below table

Model	OL-A016**05N3/* OL-A016**05RN3/*	OL-A016**06N3/* OL-A016**06RN3/*
Height (mm)	264	254

Width (mm)	50.24	46.4
Depth (mm)	232	232
Number of Tubes (High)	3R(24U)	4R(24U)
No. of fins per inch	19	18
Spacing between fins (mm)	1.3	1.4

20-20 Evaporator: Test Accepted, suitable for use with R32, Fin-tube, See Att4 Illustrations

<u>Manufacturer:</u>	Zhejiang Oulun Electric Co., Ltd.
<u>Designation:</u>	See Att4 Illustrations
<u>Tubing Material:</u>	Copper
<u>Tubing OD (mm):</u>	Ø 7
<u>Tubing Wall Thickness (mm):</u>	0.23
<u>Return Bend OD (mm):</u>	Ø 7
<u>Return Bend Thickness (mm):</u>	0.23
<u>Corrosion Protection:</u>	Inherent
<u>Bonding for Grounding:</u>	Assembly screws.

Model	OL-A016**05N3/* OL-A016**05RN3/*	OL-A016**06N3/* OL-A016**06RN3/*
Height (mm)	231	231
Width (mm)	25.4	25.4
Depth (mm)	230	409.7
Number of Tubes (High)	2R(11U)	2R(10U)
No. of fins per inch	21	23
Spacing between fins (mm)	1.2	1.1

20-30 Interconnecting Tubing:

<u>Material:</u>	Copper
<u>Outside Diameter (mm):</u>	Ø 6.35, Ø 7.94, Ø 9.52
<u>Min Wall Thickness (mm)</u>	0.6

20-40 Capillary Tubes:

<u>Material:</u>	Copper
<u>ID (mm):</u>	1.0 (For models OL-A016**05N3/*; OL-A016**05RN3/*) 1.1 (For models OL-A016**06N3/*; OL-A016**06RN3/*)
<u>Length (mm):</u>	900 (For models OL-A016**05N3/*; OL-A016**05RN3/*) 750 (For models OL-A016**06N3/*; OL-A016**06RN3/*)

20-50 Refrigerant Line Fittings and Joints:

Refrigerant tubing joints are telescoped and brazed or silver soldered or completed with SAE flare fittings of forged brass or plated steel.

30 Bonding for Grounding (earthing):

Models: All.

Parts Bonded to Each Other for Grounding: Exposed non-current-carrying metal parts that are liable to become energized are bonded to the point of the supply circuit grounding connection (conduit termination point, terminal or lead). The following pairs of parts are bonded to each other by the bonding method(s) described below:

<u>Parts Bonded to Each Other</u>	<u>Bonding Method</u>
Compressor, Refrigerant Lines	One end of a green or green/yellow wire No. 14-18AWG is terminated in a ring type terminal and then secured to the grounding terminal of compressor.
Capacitors	Mounted in control box

40 Internal Wiring:

Models: All.

40-10 Types: INT

CSA Certified or UR Recognized appliance wiring material (1) with FT-1, VW-1 flammability rating as described below. Wiring which is color coded green or green with one or more yellow stripes is employed on grounding conductors only.

Manufacturer: ZHEJIANG XINXIN ELECTRONIC WIRE ROD CO LTD (E225383)  
XINGDA ELECTRONICS WIRE & CABLE CO LTD (E187208)  
GUANG DONG XIN LONG ENTERPRISE CO (E207567)  
ZHONGSHAN HE YI ELECTRICAL APPLIANCES FACTORY (E313976)  
ZHONGSHAN YUXUAN ELECTRONICS CO LTD (E316286)  
GUANGDONG ZHIHE WIRE & CABLE CO LTD (E251728)  
NINGBO HAOGUANG ELECTRIC APPLIANCE CO LTD (E192545)  
GUANGDONG YONGROI CABLE TECHNOLOGY CO LTD (E204893)  
TONGXIANG TANSI ELECTRIC CO LTD (E222788)  
HANGZHOU HANGHU ELECTRONICS CO LTD (E237806)  
NINGBO JIAJIE ELECTRONIC CO LTD (E487091)  
ZHEJIANG JINTING NUCLEAR CABLE CO LTD (E313965)  
DONGGUAN TRIUMPHCABLE CO LTD (E249743)  
TONGXIANG XIN YI HONG ELECTRIC CO LTD (E224763)  
SHANGHAI QIFAN CABLE CO LTD (E465725)  
Zhongshan City Boyu Wire Co Ltd (E314089)  
XINYA ELECTRONIC CO LTD(E170689)  
ZHEJIANG ZHENGHE ELECTRONICS CO LTD(E192542)

Designation: 1015

Ratings: 14-18AWG, 600V, 105°C.

40-20 Wiring Methods:

All wiring is installed and positively routed in such a manner that it is not subject to mechanical damage due to contact with sharp edges, abrasive surfaces, vibrating or moving parts.

Line voltage wiring which is completely enclosed within certified PVC sleeving or separate electrical enclosures employs 2/64 in thick (min) electrical insulation unless specified differently in this report.

Green or green with yellow stripe wire may be employed only as grounding conductors. Splices are not employed in grounding conductors unless otherwise noted in the report.

Holes for the passage of wires or cords through walls, panels or barriers have smooth, rounded surfaces or are provided with smoothly rounded bushings.

All splices are mechanically secured to a fixed member or located in a separate enclosure.

Unless otherwise noted all wires terminate in quick-connect or eyelet type materials.

Unless provided with insulation rated for the highest voltage involved, insulated conductors of different circuits shall be separated by barriers or shall be segregated; and shall, in any case, be separated; and shall, in any case, be separated or segregated from uninsulated live parts connected to different circuits.

40-30 Wireways:

All factory-installed wiring is protected by one of the following wireways or enclosures:

- A. Certified flexible metal conduit.
- B. Wiring connection box or other electrical enclosure.
- C. Unit Cabinet.

50 Electrical Components:

Models: All.

50-10 Compressor Unit: cURus Recognized

Models: OL-A016\*\*05N3/\*; OL-A016\*\*05RN3/\*

Manufacturer: GUANGDONG MEIZHI COMPRESSOR LTD (SA12105)

Designation: KSN66E01VZDX3

Volts/Hz: 115V, 60 Hz, R32

RLA: 5.5A

LRA: 27A

Including the following assemble:

a) Overload Protector: (Built-in type)

Manufacturer: UBUKATA INDUSTRIES CO LTD (E85460)

Designation: UP3-62H

Rating: Action temperature:  $160 \pm 5^{\circ}\text{C}$ , Reset temperature:  $90 \pm 10^{\circ}\text{C}$



b) Refrigerant-Oil Separator: welding to compressor, located at low side of refrigeration system.

Shell Material: Metal

Corrosion Protection: Painted

Length (mm): 162

Outside Diameter (mm): Ø31.8

Wall thickness (mm): 1

c) Compressor Run Capacitors: INT, cURus Recognized

Manufacturer: NINGGUO HUILI ELECTRIC CO LTD (E313438)

Designation: CBB65

Rating: 55µF, 250 V, S2

Minimum AFC Rating: 10000

Terminal Enclosure: Insulated quick connect tab terminals.

Location: Inside control PCB box.

Alternative Manufacturer: SHENG YE ELECTRIC CO LTD (E237947)

Designation: C65R

Rating: 55µF, 250 V, S2

Minimum AFC Rating: 10000

Terminal Enclosure: Insulated quick connect tab terminals.

Location: Inside control PCB box.

Alternative Manufacturer: NINGGUO HUNING ELECTRIC APPARATUS CO LTD (E312167)

Designation: CBB65A

Rating: 55µF, 250 V, S2

Minimum AFC Rating: 10000

Terminal Enclosure: Insulated quick connect tab terminals.

Location: Inside control PCB box.

Compressor Unit: cURus Recognized

Models: OL-A016\*\*06N3/\*; OL-A016\*\*06RN3/\*

Manufacturer: GUANGDONG MEIZHI COMPRESSOR LTD (SA12105)

Designation: KSN78E11VBZC1

Volts/Hz: 115V, 60 Hz, R32

RLA: 6.15A

LRA: 36A

a) Overload Protector: (Built-in type)

Manufacturer: UBUKATA INDUSTRIES CO LTD (E85460)

Designation: UP3-65H

Rating: Action temperature:  $160 \pm 5^{\circ}\text{C}$ , Reset temperature:  $90 \pm 10^{\circ}\text{C}$

b) Refrigerant-Oil Separator: welding to compressor, located at low side of refrigeration system.

Shell Material: Metal

Corrosion Protection: Painted

Length (mm): 212

Outside Diameter (mm): Ø44

Wall thickness (mm): 1

c) Compressor Run Capacitors: INT, cURus Recognized

Manufacturer: NINGGUO HUILI ELECTRIC CO LTD (E313438)

Designation: CBB65  
Rating: 50 $\mu$ F, 250 V, S2  
Minimum AFC Rating: 10000  
Terminal Enclosure: Insulated quick connect tab terminals.  
Location: Inside control PCB box.

Alternative Manufacturer: SHENG YE ELECTRIC CO LTD (E237947)  
Designation: C65R  
Rating: 50 $\mu$ F, 250 V, S2  
Minimum AFC Rating: 10000  
Terminal Enclosure: Insulated quick connect tab terminals.  
Location: Inside control PCB box.

Alternative Manufacturer: NINGGUO HUNING ELECTRIC APPARATUS CO LTD (E312167)  
Designation: CBB65A  
Rating: 50 $\mu$ F, 250 V, S2  
Minimum AFC Rating: 10000  
Terminal Enclosure: Insulated quick connect tab terminals.  
Location: Inside control PCB box.

50-20 Fan motor: Test Accepted, see Att1 Photos 34,35,36 and Att3 Illustration 8.  
Models: OL-A016\*\*05N3/\*; OL-A016\*\*05RN3/\*; OL-A016\*\*06N3/\*; OL-A016\*\*06RN3/\*  
Manufacturer: Zhejiang Oulun Electric Co., Ltd.  
Designation: YSK95-65-4C  
Rating: 110-120V~, 60Hz, 1.2A  
Insulation Class: Class A  
Protection: Thermally protected.  
Mounting: Secured to Fan Motor Mounting Plate by four bolts.

Other components described as follow:

(a) Stator:

Material: Laminated steel.  
Dimensions: 95mm OD, 55mm ID, 35mm stack.  
Winding: Enameled Aluminium wire, Cat No. xUEWA/155, QA-x/155L, manufactured by ZHEJIANG ROSHOW ELECTRONIC WIRES CO LTD (E358154), temperature rating 155 °C;  
main winding: 0.5mm dia; auxiliary winding: 0.5mm dia.  
Slot insulation: EM6-L.O., 0.188mm thick, extending 4 mm min beyond the stator core, temperature rating 140°C.  
Insulation paper: EM6-L.O., 0.188mm thick, temperature rating 140°C.

(b) Stator Leads: UR recognized.

Type: AWM, VW-1,  
Size: No 18-22 AWG, 105°C, 600 V.  
Method of Connection to Coil Ends: Mechanically secured and soldered to windings and Use PVC sleeving tubing.

(c) Rotor:

Material: Laminated steel.  
Dimensions: 55mm OD, 35mm stack.  
End Ring: None.  
Method of Securement to Shaft: Press fitted.

(d) Automatic Thermal Protector: UR recognized

Manufacturer: JIANGSU CHANGSHENG ELECTRIC APPLIANCE CO LTD (E214731)

Designation: BR-A, BR-A2D

Rating: 250V, 6A, 130 °C

Connection: Mechanically secured and soldered to windings.

Alternative Manufacturer: JIANGSU CHANGSHENG ELECTRIC APPLIANCE CO LTD (E214731)

Designation: 18AM-B

Rating: 250V, 6A, 130 °C

Connection: Mechanically secured and soldered to windings.

Alternative Manufacturer: CHANGZHOU AINUO ELECTRONICS TECHNICAL CO LTD (E258861)

Designation: KW- 130°C 1T, KW- 130°C 1B

Rating: 250V, 6A/10A, 130 °C

Connection: Mechanically secured and soldered to windings.

Alternative Manufacturer: DONGYANG HENGDIAN THERMAL PROTECTOR FACTORY (GENERAL PARTNERSHIP) (E213246)

Designation: KSD-IIB, KSD-IB

Rating: 250V, 6A/5A, 130 °C

Connection: Mechanically secured and soldered to windings.

Note: The above types of thermal protector were evaluated according to IEC 60079-15 for ignition protection.

(e) Run Capacitor: UL Recognized

Manufacturer: GUANGDONG FENGMINGELECTRONIC TECH CO LTD (E307429) or  
NINGGUO HUILI ELECTRIC CO LTD (E313438) or  
SHENG YE ELECTRIC CO LTD (E185116) or  
ZHONGSHAN EPERS ELECTRIC ALAPPLIANCES CO LTD (E487578)

Designation: CBB61

Electrical Rating: 15uF,250V, Min T70, S3

Container Material: PBT

Terminal Enclosure: Insulated quick connect tab terminals.

Location and Mounting: Secured by screws in the control PCB box.

Alternative Manufacturer: SHENG YE ELECTRIC CO LT (E237947)

Designation: C61-P2

Electrical Rating: 15uF,250V, Min T70, S3

Container Material: PBT

Terminal Enclosure: Insulated quick connect tab terminals.

Location and Mounting: Secured by screws in the control PCB box.

(f) Up Fan Blades:

Type: Cylindrical

Blade dia. & Height (mm): 146 by 120

Blade Material: PP+GF

Securing Method: Fixed on shaft

(g)Down Fan Blades:

Type: Cylindrical

Blade dia. & Height (mm): 205by 80

Blade Material: ABS+GF

Securing Method: Fixed on shaft.

50-30 Splash motor: For all models; Test Accepted, see Att1 Photo 28 and Att3 Illustration 9

Manufacturer: Zhejiang Oulun Electric Co., Ltd.

Designation: OL48-20

Rating: 120V~, 60Hz

Insulation Class: Class A

Protection: Thermally protected.

Filling: Epoxy resin

Mounting: Installed on the plastic base of the product with screws.

Note: This splash motor has been evaluated in report No. 80143279.

Other components described as follow:

(a) Stator:

Material: Laminated steel.

Dimensions: 48\*50mm OD, 24 mm ID, 20mm stack.

Winding: Enameled copper wire, Cat No. xUEW/155, QA-1/155, manufactured by ZHEJIANG WUGU COPPER INDUSTRY CO LTD (E336659) or Ningbo Xinjian New Material Technology Co Ltd(E197317), temperature rating 155 °C, winding: 0.25 mm dia. by 1700turns;

Bobbin: Material: PA6, Thickness (mm): Min 1.5, Flammability: V-0, RTI (65, 65, 65) Cat No., AX1, manufactured by NINGBO GAOTEFU ALLOY MATERIAL CO LTD (E478844).

Insulation paper: 69 (a), 0.15 mm thick, temperature rating 200 °C. manufactured by 3M COMPANY (E17385)

(b)Stator Leads: UR recognized.

Type: AWM, VW-1

Size: No 18-22AWG,105°C, 600 V.

Method of Connection to Coil Ends: Mechanically secured and soldered to windings and use PVC sleeving tubing.

(c)Rotor:

Material: Laminated steel.

Dimensions: 23.5 mm OD, 23.35 mm stack.

End Ring: None.

Method of Securement to Shaft: Press fitted.

(d)Automatic Thermal Protector: UR recognized

Manufacturer: ZHANGZHOU AUPO ELECTRONICS CO LTD (E140847)

Designation: A12-F

Rating: 250V, 2A, 145 °C

Connection: Mechanically secured and soldered to windings.

Note: This type of thermal protector was evaluated according to IEC 60079-15 for ignition protection.

(e)Splash motor blade: UR recognized

Type: Round  
Blade dia. (mm): Φ80  
Blade Material: ABS  
Securing Method: Fixed on shaft.

50-40 4-way valve: For models OL-A016\*\*05RN3/\*; OL-A016\*\*06RN3/\*.

Manufacturer: ZHEJIANG SANHUA INTELLIGENT CONTROLS CO LTD (MH29234)

Designation: SHF-4H-23U-P

Rating: D connection takes over: Ø 5/16 [in]; E/S/C connection takes over: Ø 3/8 [in]

Alternative Manufacturer: Zhongshan City Gangli Refrigeration Fittings Co., Ltd. (SA32856)

Designation: SHF-4

Rating: D connection takes over: Ø 5/16 [in]; E/S/C connection takes over: Ø 3/8 [in]

Alternative Manufacturer: ZHEJIANG DUNAN ARTIFICIAL ENVIRONMENT CO LTD(E253737)

Designation: DSF-4

Rating: D connection takes over: Ø 5/16 [in]; E/S/C connection takes over: Ø 3/8 [in]

4-way valve Coils:

Manufacturer: ZHEJIANG SANHUA INTELLIGENT CONTROLS CO LTD (MH49439)

Designation: SHF-4-10L4

Rating: AC110-120V,50/60Hz,4.5/3.5W

Alternative Manufacturer: Zhongshan City Gangli Refrigeration Fittings Co., Ltd. (MH62482)

Designation: XQA4

Rating: AC110-120V,50/60Hz,4.5/3.5W

Alternative Manufacturer: ZHEJIANG DUNAN ARTIFICIAL ENVIRONMENT CO LTD(MH62649)

Designation: SH-W5

Rating: AC115-120V,50/60Hz,7/5W

50-50 Electronic Control PCB: Test Accepted. Evaluated as Class 2 circuit.

See Att1 Photos 25a, 25b, and Att3 Illustrations 4-5.

Models: OL-A016\*\*05N3/\*; OL-A016\*\*05RN3/\*; OL-A016\*\*06N3/\*; OL-A016\*\*06RN3/\*

Manufacturer: LICHUANG ELECTRON LIMITED COMPANY

Designation: OL-A011-POWER-PLUS

Rating: Input:115V, 60Hz; output: 12V, 0.6A

Note: This electronic control PCB has been evaluated in report No. 80143279.

The following are major components on the PCB of the electronic controller located in the 115V circuit.

(a) PWB material: cURus Recognized

Manufacture: KINGBOARD LAMINATES HOLDINGS LTD (E123995)

Designation: KB-5150(CEM-1), FR-4-KB-6160, FR-4-KB-6160A

Manufacture: SHANDONG JINBAO ELECTRONICS CO LTD (E141940)

Designation: ZD-95(G)F(CEM-1)

Manufacture: JIABAO ELECTRONIC CORPORATE (MEIXIAN) LTD (E108448)

Designation: JB0-1(CEM-1)

Manufacture: GUANGDONG CHENGDE ELECTRONIC TECHNOLOGY CO LTD (E322995)

Designation: 2(CEM-1)

Manufacture: SHENGYI TECHNOLOGY CO LTD (E109769)

Designation: S3110(CEM-1)

Material: Epoxy fiberglass, 1.4 mm thick.

Dimensions (mm): 143 by 76

Flammability: V-0

Operating temperature: 130C

Mounting: Secured by four recognized plastic standoffs to control box.

- (b) Fuse: INT, cURus Recognized  
Manufacturer: XC ELECTRONICS (SHENZHEN) CORP LTD (E249609)  
Designation: 4T or 4F  
Manufacturer: DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD (E300003)  
Designation: 334  
Manufacturer: ZHONG SHAN LANBAO ELECTRICAL APPLIANCES CO LTD (E213695)  
Designation: RTI-10 or RFI-10  
Manufacturer: HONG HU BLUELIGHT ELECTRONIC CO LTD (E324232)  
Designation: L3CT  
Manufacturer: DONGGUAN HONGDA ELECTRONIC TECHNOLOGY CO LTD (E318938)  
Designation: 31TC  
Rating: 2.0A or 3.15 A, 250Vac
- (c) Varistor (ZNR): INT, cURus Recognized  
Manufacturer: THINKING ELECTRONIC INDUSTRIAL CO LTD (E314979)  
Designation: TVR 10221, TVR 10271, TVR 10471, TVR 10561  
Rating: 220V, 270V, 470V, 560V, 105°C  
Mounting: Secured to main PWB by soldering.

Alternative varistor (ZNR): INT, cURus Recognized

Manufacturer: HAOHUA ELECTRONIC CO. (E332662)

Designation: HVR10K221, HVR 10K271, HVR 10K471, HVR 10K561

Rating: 220V, 270V, 470V, 560V, 85°C

Mounting: Secured to main PWB by soldering.

Alternative varistor (ZNR): INT, cURus Recognized

Manufacturer: CENTRA SCIENCE CORP (E316325)

Designation: CNR 10D221K, CNR 10D271K, CNR 10D471K, CNR 10D561K

Rating: 220V, 270V, 470V, 560V, 105°C

Mounting: Secured to main PWB by soldering.

Alternative varistor (ZNR): INT, cURus Recognized

Manufacturer: XIAN XIWUER ELECTRONIC & INFORMATION CO LTD (E321175)

Designation: MYG3-10K175, MYG3-10K230, MYG3-10K300, MYG3-10K360

Rating: 175V, 230V, 300V, 360V, 85°C

Mounting: Secured to main PWB by soldering.

Alternative varistor (ZNR): INT, cURus Recognized

Manufacturer: GUANGXI NEW FUTURE INFORMATION INDUSTRY CO LTD (E323753)

Designation: NFC 10D221K, NFC 10D271K, NFC 10D471K, NFC 10D561K

Rating: 220V, 270V, 470V, 560V, 125°C

Mounting: Secured to main PWB by soldering.

Alternative varistor (ZNR): INT, cURus Recognized

Manufacturer: GUANGDONG FENGHUA ADVANCED TECHNOLOGY HOLDING CO LTD (E325462)

Designation: FNR-10K221, FNR-10K271, FNR-10K471, FNR-10K561

Rating: 220V, 270V, 470V, 560V, 105°C

Mounting: Secured to main PWB by soldering.

Alternative varistor (ZNR): INT, cURus Recognized

Manufacturer: CERGLASS MFG INC (E317616)

Designation: VDR 10D221K, VDR 10D271K, VDR 10D471K, VDR 10D561K

Rating: 220V, 270V, 470V, 560V, 125°C

Mounting: Secured to main PWB by soldering.

(d) Capacitor X2 (MC1): INT, cURus Recognized

Manufacturer: DAIN ELECTRONICS CO LTD (E147776)

Type: X2

Designation: MPX, MEX, NPX

Rating: 250VAC, 275VAC, 310VAC 0.1μF, T110 or T100.

Alternative capacitor X2(MC1): INT, cURus Recognized

Manufacturer: SHANGHAI XIANG RI YA ELECTRONICS CO LTD (E256815)

Type: X2

Designation: MPX/MKP X2 or MKP41

Rating: 250 VAC, 310 VAC, 0.1μF, T110

Alternative capacitor X2(MC1): INT, cURus Recognized

Manufacturer: FOSHAN SHUNDE BEIJIAO HUA DA ELECTRIC INDUSTRIAL CO LTD (E227157)

Type: X2

Designation: HD or HD MKP

Rating: 250VAC, 275VAC, 280VAC, 300VAC, 305VAC, 310VAC, 330VAC, 350VAC, 0.1μF, T85, T105, T110

Alternative capacitor X2(MC1): INT, cURus Recognized

Manufacturer: SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD (E208107)

Type: X2

Designation: MPX or MKP

Rating: 250VAC, 275VAC, 305VAC, 310VAC, 0.1μF, T110

Alternative capacitor X2(MC1): INT, cURus Recognized

Manufacturer: ULTRA TECH XIPHI ENTERPRISE CO LTD (E183780)

Type: X2

Designation: HQX

Rating: 250VAC, 275VAC, 280VAC, 300VAC, 305VAC, 310VAC, 0.1μF, T110

Alternative capacitor X2(MC1): INT, cURus Recognized

Manufacturer: GUANGDONG FENGMING ELECTRONIC TECH CO LTD (E345487)

Type: X2

Designation: MKP-X2

Rating: 250VAC, 275VAC, 310VAC, 0.1μF, T85, T105, T110

Alternative capacitor X2(MC1): INT, cURus Recognized



Manufacturer: FOSHAN SHUNDE CHUANG GE ELECTRONIC INDUSTRIAL CO LTD  
(E308832)

Type: X2

Designation: MKP or MKP-X2

Rating: 250VAC, 275VAC, 310VAC, 0.1 $\mu$ F, T105 /T110

Alternative capacitor X2(MC1): INT, cURus Recognized

Manufacturer: FOSHAN SHUNDE HONGYE ELECTRICAL APPLIANCE CO., LTD  
(E349882)

Type: X2

Designation: MKP

Rating: 275VAC, 300VAC, 310VAC, 0.1 $\mu$ F, T105

(e) Capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: JYH HSU (JEC) ELECTRONICS LTD (E356696)

Type: Y1

Designation: JD 102 or JD 222 or JD 472

Rating: 500VAC, 440VAC, 400VAC, 250VAC, 1000pF or 2200pF or 4700pF, T85, T125

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: JYH CHUNG (JEC) ELECTRONICS CO LTD (E499438)

Type: Y1

Designation: JD102 or JD222 or JD 472

Rating: 250VAC, 400VAC, 440VAC, 500VAC, 1000pF or 2200pF or 4700pF, T125

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: DONG GUAN CITY JIANKUN ELECTRONICS TECHNOLOGY CO LTD  
(E340699)

Type: Y1

Designation: JT102 or JT222 or JT472

Rating: 250VAC, 300VAC, 400VAC, 1000pF or 2200pF or 4700pF, T85 or T125

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: SHENZHEN SONGTE ELECTRONIC CO LTD (E302622)

Type: Y1

Designation: CT7 102 or CT7 222 or CT7 472

Rating: 400VAC, 1000pF or 2200pF or 4700pF, 125°C

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: GUANGDONG SOUTH HONGMING ELECTRONIC SCIENCE &  
TECHNOLOGY CO LTD (E154889)

Type: Y1

Designation: F102 or F222 or F472

Rating: 250VAC, 400VAC, 440VAC, 500VAC, 1000pF or 2200pF or 4700pF, 125°C

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: Haohua Electronic Co. (E233106)

Type: Y1

Designation: CT7 102 or CT7 222 or CT7 472

Rating: 250VAC, 500VAC, 1000pF or 2200pF or 4700pF, 125°C

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: SHANTOU HIGH-NEW TECHNOLOGY DEVELOPMNT ZONE SONGTIAN ENTERPRISE CO LTD (E208107)

Type: Y1

Designation: CD 102 or CD 222 or CD 472

Rating: 250VAC, 400VAC, 500VAC, 1000pF or 2200pF or 4700pF, 125°C

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: JYA-NAY CO LTD (E201384)

Type: Y1

Designation: JN 102 or JN 222 or JN472

Rating: 250VAC, 400VAC, 500VAC, 1000pF or 2200pF or 4700pF, 125°C

Alternative capacitor Y (CY1, CY2): INT, cURus Recognized

Manufacturer: NAN JING YUYUE ELECTRONICS CO LTD (E237728)

Type: Y1

Designation: CT7 102 or CT7 222 or CT7 472

Rating: 250VAC, 275VAC, 300VAC, 400VAC, 440VAC, 500VAC, 1000pF or 2200pF or 4700pF, 125°C

- (f) Electrolytic capacitor (EC1, EC2): Accepted by test

Rating: 400V or 450V, 4.7  $\mu$ F, 105 C

- (g) Rectifier Bridge (DB1): Accepted by test

Rating: DB107S

- (h) Switch Transformer (T1): Test accepted

Manufacturer: Foshan Shunde Shuoli Electronics & Electrical Appliance Co., Ltd.

Cat No: EE16028A

Insulation Class: Class B.

Core: FERRITE CORE.

Bobbin: Phenolic Molding Compound (PMC), by CHANG CHUN PLASTICS CO LTD (E59481), Cat T375J, flame rated UL94 V-0, 150C.

Insulating Tape: WU XI HUA RUN SPECIAL TAPE CO LTD (E214552), Cat No 'HR-310Y', Polyethylene terephthalate film tapes, rated 130C, 0.025 mm thick min.

Primary Winding: GUANGZHOU CHUNYI ELECTRIC ENTERPRISE LTD (E198440), Cat No '2UEW/155&QA-1'.

Secondary Winding: Triple Insulated Wire, Guangzhou Wanbao Electronic Material Co Ltd (E323485), Cat No 'DTM-B'.

Varnish: Cat No. RT9669, rated 260°C, by Shen Zhen Noble Flower Technology Industrial Co LTD (E480212)

Tubing: Cat No. CJ-TT-L, rated 200°C, 150V, NT color, VW-1, DONGGUAN CITY CHANGJIE METALS & PLASTIC PRODUCTS CO LTD (E338209).

Note: min 3.2mm spacing between primary and secondary traces.

- (i) Relay (REL1): cURus Recognized

Manufacturer: SANYOU CORPORATION LIMITED (E190598)

Designation: SFK-112DM-E

Contact rating: 250VAC, 25A

Contact Cycle Rating: 100000

Coil Rating: 12 VDC

Operating Ambient: -40 to 85 C

Load Controlled: Compressor

Note: This type of relay was evaluated according to IEC 60079-15 for ignition protection.

Alternative manufacturer: WANGRONG ELECTRONICS (SHENZHEN) CO LTD  
(E345228)+UL Explosion proof certification (E504961)

Designation: RF-SS-112DMF

Contact rating: 250VAC,25A

Contact Cycle Rating: 100000

Coil Rating: 12 VDC

Operating Ambient: -40 to 85 C

Load Controlled: Compressor

Alternative manufacturer: NINGBO TIANBO GANGLIAN ELECTRONICS CO., LTD.  
(E173485)

Designation: TRAF D-12VDC-H

Contact rating: 250VAC,25A

Contact Cycle Rating: 100000

Coil Rating: 12 VDC

Operating Ambient: -40 to 85 C

Load Controlled: Compressor

Note: The above type of relays were evaluated according to IEC 60079-15 for ignition protection.

- (j) Relay (REL2~ REL6): cURus Recognized  
Manufacturer: SANYOU CORPORATION LIMITED (E190598)  
Designation: SJ-SH-112DMH2  
Contact rating: 250VAC,10A  
Coil Rating: 12VDC  
Operating Ambient: -40°C to 85°C  
Load Controlled: Fan motor/ Pump motor/4-Way valve

Alternative Relay (REL2~ REL6): cURus Recognized  
Manufacturer: SANYOU CORPORATION LIMITED (E190598)  
Designation: SJ-SH-112DM2  
Contact rating: 250VAC,5A  
Contact Cycle Rating: 100000  
Coil Rating: 12VDC  
Operating Ambient: -40 to 85 C  
Load Controlled: Fan motor/ Pump motor/4Way valve

Alternative Relay (REL2~ REL6): cURus Recognized  
Manufacturer: NINGBO TIANBO GANGLIAN ELECTRONICS CO LTD (E173485)  
Designation: TRG1H D-12VDC-S-H  
Contact rating: 240VAC,8A  
Coil Rating: 12VDC  
Operating Ambient: -40°C to 85°C  
Load Controlled: Fan motor/ Pump motor/4Way valve

Alternative Relay (REL2~ REL6): cURus Recognized  
Manufacturer: NINGBO TIANBO GANGLIAN ELECTRONICS CO LTD (E173485)

Designation: TRG1 D-12VDC-S-H

Contact rating: 240VAC,5A

Coil Rating: 12VDC

Operating Ambient: -40°C to +85°C

Load Controlled: Fan motor/ Pump motor/4Way valve

Alternative Relay (REL2~ REL6): cURus Recognized

Manufacturer: ZHEJIANG MEISHUO ELECTRIC TECHNOLOGY CO LTD (E358149)

Designation: MPD-S-112-A

Contact rating: 250VAC,10A/250VAC,5A

Contact Cycle Rating: 100000

Coil Rating: 12VDC

Operating Ambient: -40 to 85 C

Load Controlled: Fan motor/ Pump motor/4Way valve

Alternative Relay (REL2~ REL6): cURus Recognized

Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD (E134517)

Designation: HF32F

Contact rating: 250VAC,5A

Contact Cycle Rating: 100000

Coil Rating: 12VDC

Operating Ambient: -40 to 85 C

Load Controlled: Fan motor/ Pump motor/4Way valve

Alternative Relay (REL2~ REL6): cURus Recognized

Manufacturer: XIAMEN HONGFA ELECTROACOUSTIC CO LTD (E134517)

Designation: HF32F-G

Contact rating: 250VAC,10A

Contact Cycle Rating: 100000

Coil Rating: 12VDC

Operating Ambient: -40 to 85 C

Load Controlled: Fan motor/ Pump motor/4Way valve

Note: The above type of relays were evaluated according to IEC 60079-15 for ignition protection.

Alternative manufacturer: WANGRONG ELECTRONICS (SHENZHEN) CO LTD  
(E345228)+UL Explosion proof certification (E504961)

Designation: RJ-SS-112DM-S

Contact rating: 250VAC,5A

Contact Cycle Rating: 100000

Coil Rating: 12 VDC

Operating Ambient: -40 to 85 C

Load Controlled: Fan motor/ Pump motor/4Way valve

Alternative manufacturer: WANGRONG ELECTRONICS (SHENZHEN) CO LTD  
(E345228)+UL Explosion proof certification (E504961)

Designation: RJ-SS-112DM1-S

Contact rating: 250VAC,10A

Contact Cycle Rating: 100000

Coil Rating: 12 VDC

Operating Ambient: -40 to 85 C

Load Controlled: Fan motor/ Pump motor/4Way valve

50-60 Power cord: cURus Recognized

No.14AWG or 16AWG or 18AWG, 3-conductor, rated 105C 300V, VW-1, terminating in a CSA certified or UR or ETL recognized molded parallel-blade grounding type attachment plug, Type LCDI or AFCI, rated 120V, 10A-15A. The supply cord main bonding conductor terminates in a ring or eyelet type terminal and is secured to the compressor base by one screw engaged in minimum two threads with starwasher. Strain relief is provided by a molded PVC block securing the cord with two screws to the compressor base.

50-70 Connector for fan motor: cURus Recognized

Manufacturer: Zhejiang ZUCH Technology Co Ltd (E326081)

Designation: VH-4Y

Material: PA66

Rating: AC 250V, 10A, 94V-0

Alternative Connector for fan motor:

Manufacturer: ZHEJIANG HONGXING ELECTRICAL CO LTD(E344515)

Designation: HX39600-4Y

Material: PA66

Rating: PA66, 94V-0, AC 250V,7.5A

Alternative Connector for fan motor:

Manufacturer: YUEQING JIADE ELECTRONICS CO LTD (E241222)

Designation: VHC-4Y

Material: PA66

Rating: PA66, 94V-0, AC 250V,10A

50-80 Display PCB and Indicator PCB: supplied by Class 2 circuit.

50-90 WIFI module (Optional): model WBR3, supplied by Class 2 circuit.

50-100 Floating switch: supplied by Class 2 circuit

Manufacturer: Dongguan Xin Yuteng Electronics Co., Ltd

Designation: SI2844

Rating: DC5V,0.5A

Note: Sealed component

50-110 Temperature sensor: Supplied by Class 2 circuit.

50-120 Accessory Exhaust duct: PE+PP, dia.150mm

TEST HISTORY

Ed. 1 Project 80191058

The tests were performed as below:

Test Conducted at	
1	Zhejiang Oulun Electric Co., Ltd. Building 1-8, No 22 Hengyi Street, Tangqi Town, Linping District, Hangzhou,311100, Zhejiang, P.R.China
2	CCIC-CSA International Certification Co., Ltd. Shanghai Branch Floor 1, Building 4, Qilai Industrial City,889 YishanRoad, Shanghai 200233, China

Models OL-A016AA05RN3/F, OL-A016AA06RN3/F were selected as representative models to perform tests and the result passed.

All tests are in accordance to CSA Standard CSA/UL 60335-1-16 and CSA/UL 60335-2-40-22, UL 60335-2-40(Fourth Edition) unless otherwise indicated below:

Clause	Remark: Y - Applicable, N/A - Not Applicable, W - Waive		
Clause	Test Description	Required (Y or N/A with rationale)	Test result (P or F or N/A)
7.14	Marking and instructions - Marking legible and durable test	Y	P
8	Protection against access to live parts	Y	P
9DV	Starting of motor-operated appliances	Y	P
10	Power input and current	Y	P
11	Heating	Y	P
13	Leakage current and electric strength at operating temperature	Y	P
15.2	Moisture resistance – Protection degree against water test	N/A IPX0	N/A
15.3	Block drain pan discharge pipe test	Y	P
15.101	Spillage test	Y	P
16	Leakage current and electric strength	Y	P
17	Overload protection of transformers and associated circuits	N/A Refer to UL 1310 test	N/A

19.1DV.3	Abnormal operation – Test about appliance with supplementary heaters	N/A No supplementary heater	N/A
19.4	Abnormal operation – Test at fault conditions	N/A No such component	N/A
19.5	Abnormal operation – Short-circuited the sheath and polarity of supply test	N/A No tubular sheathed or embedded heating elements	N/A
19.6	Abnormal operation – PTC heating elements over voltage test	N/A No PTC heating element	N/A
19.7	Abnormal operation – Locked motor and motor-compressor test	Y	P
19.7	Abnormal operation – Capacitor open-circuit and lock motor test	N/A	N/A
19.7	Abnormal operation – Capacitor short-circuit and lock motor test	N/A	N/A
19.8	Abnormal operation – Three-phase motor test with one phase disconnected	N/A No such component	N/A
19.10	Abnormal operation – Series motor lowest load test	N/A No series motor	N/A
19.11.1 & 19.11.2	Abnormal operation – Fault conditions of electronic circuits test	Y Refer to Report No. 80143279	P
19.11.4	Abnormal operation – EMP test	N/A Unintentional operation does not cause any hazards	N/A
19.12	Abnormal operation – Current fuse reliability test	N/A Refer to Report No. 80143279	N/A
19.13	Abnormal operation – Acceptance conditions after all abnormal operation tests	Y	P
19.14	Abnormal operation – Contact point short circuited	N/A Relays are only to ensure the appliance is energized for normal use.	N/A
19.101	Abnormal operation – Restricted or shut off heat transfer medium flow	Y	P
19.102	Abnormal operation – Test about indoor heat exchanger using water as a heat transfer medium	N/A Not use water as a heat transfer medium	N/A
19.103	Abnormal operation – High / Low temperature test	Y	P



19.104DV	Abnormal operation – Cover Appliance Test	N/A No supplementary air heaters	N/A
19.105DV.1	Abnormal operation –Refrigerant reduce test	Y	P
19.105DV.2	Abnormal operation – Backup Protection	N/A No supplementary air heaters	N/A
19.106DV	Abnormal operation – Test about a heat exchanger for the purpose of heating water	N/A No exchanger for heating water	N/A
20.1	Stability and mechanical hazards – Stability test	Y	P
20.2	Stability and mechanical hazards – Mechanical hazards test	Y	P
20.101DV	Stability and mechanical hazards – Stability test for window type room air conditioner	N/A Not window type	N/A
21.1	Mechanical strength – Impact test and pressure test(refer to Annex EE)	Y	P
21.2	Mechanical strength – Solid insulation strength	N/A The thickness of SUPPLEMENTARY INSULATION is at least 1 mm and that of REINFORCED INSULATION is at least 2 mm	N/A
21.2 (Addition)	Vibration Test for Appliance using flammable refrigerants	Y	P
21.101DV	Mechanical strength –Load Test mechanical abuse	Y	P
22.1	Construction – IP test against access to hazardous parts and against solid foreign objects	N/A IPX0	N/A
22.5	Construction – plug discharge test	Y	P
22.11	Construction – Non-detachable parts push and pull test	Y	P
22.12	Construction – Handles, knobs, grips and levers pull test	N/A No such component	N/A
23.3	Internal wiring – Flexing test	N/A Internal wiring can not move in normal use or during user maintenance	N/A

23.5	Internal wiring – Insulation test	N/A UL recognized Internal wires	N/A
24.5	Components – Capacitor voltage test	Y	P
25.14	Supply connection and external flexible cords – Flexing test	N/A Supply cord will not move while in operation	N/A
25.15	Supply connection and external flexible cords – Pull and torque test	Y	P
26.3	Terminals for external conductors - Torque test	N/A Type Y attachment	N/A
27.5	Provision for earthing – Ground impedance test	Y	P
28.1	Screws and connections – Screws torque test	Y	P
30.1	Resistance to heat and fire – Ball pressure test	Y	P
30.2.1 & 30.2.3	Resistance to heat and fire – Glow-wire Test Record	N/A UR Recognized material	N/A
30.2.4	Resistance to heat and fire – Needle flame test	N/A UR Recognized material	N/A
31	Resistance to rusting	Y	P
Annex G	Safety isolating transformers	N/A Refer to UL 1310 evaluation	N/A
Annex H	Switches	N/A No such switch used	N/A
Annex N	Proof tracking Test	N/A Recognized PCB	N/A
Annex EE	Pressure Test	Y	P
Annex GG.7	Mechanical requirements	N/A $M \leq m1$ , not requirement	N/A
Annex LL	Refrigerant detection systems for A2L refrigerants	N/A No refrigerant detection system	N/A
Annex MM	Refrigerant sensor location confirmation test	N/A No refrigerant detection system and sensor	N/A
Annex NN	Flame arrest enclosure verification test for A2L refrigerants	N/A No such component	N/A

Annex 101.DVD	Accelerated aging tests – Gaskets	N/A No such component	N/A
Annex 101.DVH	Requirements for APPLIANCES NOT ACCESSIBLE TO THE GENERAL PUBLIC	N/A Appliances accessible to the general public	N/A
Annex 101.DVI.3	Nichrome Wire Test	N/A	N/A
Annex 101.DVO	Rain Test	N/A Indoor use	N/A
Annex 101.DVP	LEAK DETECTION SYSTEM confirmation test for FLAMMABLE REFRIGERANTS	N/A No refrigerant detection system	N/A
Annex 101.DVQ	Test method for determining releasable charge	N/A $M \leq m1$ , not requirement	N/A

Main control PCBs were evaluated by C22.2 No. 223-15/ UL Standard No. 1310 6<sup>th</sup> Ed

Tests	Clauses/ Section	Comments/Rationale	Verdict
Open Circuit Secondary Voltage/Maximum Output Voltage	6.3.1/ 28		P
Rated Input/Maximum Input	6.3.2/ 29		P
Maximum Output Current and Power/Output Current and Power	6.3.4/ 30		P
Dielectric strength/ Dielectric Voltage Withstand Test	6.5/ 34		P
Abnormal	6.8/ 39.3 to 39.7		P

Fan motor and Splash motor were evaluated by UL 1004-3, Second Edition/ CSA C22.2 No. 77-14.

#### **UL 1004-3, Second Edition, Dated February 27, 2015**

Test Clause	Test Name	Need or not	Samples no.	Verdict
8.2	Locked Rotor Temperature Test for Automatically reset protectors	Y	--	P
9.2	Locked Rotor Endurance Test for Automatically reset protectors	Y	--	P

#### **CSA C22.2 No. 77-14, August 2014**

Test Clause	Test Name	Need or not	Samples no.	Equipment NO.
6.4.3	Locked-rotor Temperature Test for Motors with Automatic Reset Protection	Y	Refer to CL 8.2 of UL 1004-3.	
6.6.3	Endurance Test for Motors with Automatic Reset Protector	Y	Refer to CL 9.2 of UL 1004-3.	

**MASTER CONTRACT:** 0000302422

**REPORT:** 80191058

**PROJECT:** 80191058

**Page No:** 33

**Date Issued:** January 05, 2024

---

**Construction Review:**

Construction review performed with satisfactory results.

---End of Report---