Test Report issued under the responsibility of:

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

Report Number. ..... :	4787378268
Date of issue ..... :	2017/08/01; Amendment 1: 2017-08-28, Amendment 2: 2017-10-30, Amendment 3: 2017-11-29, Amendment 4: 2018-02-28, Amendment 5: 2018-06-15; Amendment 6: 2018-11-21; Amendment 7: 2019-02-04
Total number of pages ..... :	146
Applicant's name ..... :	RHEEM SALES CO INC
Address ..... :	5600 Old Greenwood Rd Ft Smith, AR 72906 United States
Test specification:	
Standard ..... :	IEC 60335-2-40:2013 (Fifth Edition) in conjunction with IEC 60335-1:2010 (Fifth Edition)
Test procedure ..... :	Informative Test Report
Non-standard test method……..:	N/A
Test Report Form No. ..... :	IEC60335_2_40K
Test Report Form(s) Originator .... :	VDE
Master TRF ..... :	Dated 2014-06

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

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

General disclaimer:

The test results presented in this report relate only to the object tested.
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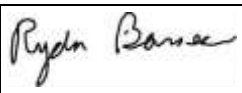
Test item description..... :	Split System air conditioner systems SAGN/EA14 and EL3T
Trade Mark..... :	 or 
Manufacturer ..... :	RHEEM SALES CO INC 5600 Old Greenwood Rd Ft Smith, AR 72906 United States
Model/Type reference..... :	Matched outdoor and indoor sections of split system air conditioners as shown in the Ratings section. Models may be followed by additional suffix letters and/or numbers representing non-critical construction variations.
Ratings..... :	See general product information

Testing procedure and testing location:			
☒	**CB Testing Laboratory:**	UL Northbrook	
Testing location/ address ..... :		333 Pfingsten Rd Northbrook, IL 60062 USA	
☐	**Associated CB Testing Laboratory:**		
Testing location/ address ..... :			
Tested by (name + signature)..... :		Ryan Barnes	Ryan Barnes
Approved by (name + signature)..... :		Angelo Z. Sakellariou	Angelo Z. Sakellariou
☒	**Testing procedure: WTDP:**	1) Rheem Manufacturing Company 2) Industrias Rheem S A DE C V 3) Nova Coil Inc.	
Testing location/ address ..... :		1) 5600 Old Greenwood Rd. Fort Smith, AR 72908 2) Parque Industrial Oradel, Ave New York 207, Carr Anahuac Km 12.5, 88285 Nuevo Laredo, Tamps, Mexico 3) 5401 W. Franklin Dr., Franklin, WI 53132 USA	
Tested by (name + signature)..... :		1) 2) and 3) Ryan Barnes	Ryan Barnes

Approved by (name + signature).....:	1) 2) and 3) Ryan Barnes	
☐ **Testing procedure: WMT/CTF Stage 2:**		
Testing location/ address .....:		
Tested by (name + signature).....:		
Witnessed by (name + signature) .....:		
Approved by (name + signature).....:		
☐ **Testing procedure: SMT/CTF Stage 3 or 4:**		
Testing location/ address .....:		
Tested by (name + signature).....:		
Witnessed by (name + signature) .....:		
Approved by (name + signature).....:		
Supervised by (name + signature).....:		

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

1:A6. National Differences - 6 pages

5:A6. Certificates - 9 pages

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
TEST FINGER - ACCESSIBILITY OF LIVE PARTS TEST: TEST PIN - ACCESSIBILITY OF LIVE PARTS TEST: POWER INPUT AND CURRENT: HEATING: LEAKAGE CURRENT (AT OPERATING TEMPERATURE) TEST: ELECTRIC STRENGTH (AT OPERATING TEMPERATURE) TEST: ABNORMAL OPERATION (MINIMUM AIR TEMPERATURE) TEST: ABNORMAL OPERATION (FAULT CONDITIONS (OPENED/SHORTED)) TEST:	1) Rheem Manufacturing Company 5600 Old Greenwood Rd. Fort Smith, AR 72908
--- PERMANENCE OF MARKING: MOISTURE RESISTANCE-IPX: LEAKAGE CURRENT (AFTER HUMIDITY) TEST: ELECTRIC STRENGTH (AFTER HUMIDITY) TEST: OVERLOAD PROTECTION (TRANSFORMER AND ASSOCIATED CIRCUITS) TEST: MECHANICAL FORCE TEST: IMPACT TEST: NON-DETACHABLE PARTS FIXING RELIABILITY TEST: EARTHING IMPEDANCE TEST: BALL-PRESSURE TEST GLOW-WIRE FLAMMABILITY TEST METHOD FOR END PRODUCTS	UL LLC 333 Pfingsten Rd. Northbrook, IL 60062 USA
RATED CURRENT (HEATING & COMBINED APPLIANCE) TEST: HEATING: LEAKAGE CURRENT (AT OPERATING	2) INDUSTRIAS RHEEM S A DE C V PARQUE INDUSTRIAL ORADEL AVE NEW YORK 207 CARR ANAHUAC KM 12.5 88285 NUEVO LAREDO

TEMPERATURE) TEST: ELECTRIC STRENGTH (AT OPERATING TEMPERATURE) TEST: ABNORMAL OPERATION-15 DAY LOCKED ROTOR-FAN MOTORS OTHER THAN COMPRESSORS: ABNORMAL OPERATION (VOLTAGE INTERRUPTIONS) TEST: ABNORMAL OPERATION - FAULT CONDITIONS TEST ABNORMAL OPERATION (RESTRICTED FLOW OF THE OUTDOOR HEAT EXCHANGER TEST: ABNORMAL OPERATION (MINIMUM AIR TEMPERATURE) TEST INTERNAL WIRING INSULATION ELECTRIC STRENGTH TEST CAPACITOR VOLTAGE: SCREW TORQUE TEST:	TAMPS MEXICO
HEATING: LEAKAGE CURRENT (AT OPERATING TEMPERATURE) TEST: ELECTRIC STRENGTH (AT OPERATING TEMPERATURE) TEST: ELECTRIC STRENGTH (AFTER HUMIDITY) TEST: ABNORMAL OPERATION (SUPPLEMENTARY HEATERS) TEST ABNORMAL OPERATION (SUPPLEMENTARY HEATERS – HIGHEST CONTINUOUS OPERATION) TEST: ABNORMAL OPERATION (SUPPLEMENTARY HEATERS – LIMIT CUTOUT) TEST: ABNORMAL OPERATION - FAULT CONDITIONS TEST ABNORMAL OPERATION (RESTRICTED FLOW OF THE INDOOR HEAT EXCHANGER TEST CONSTRUCTION – HEATING ELEMENT RUPTURE TEST CONSTRUCTION – REPLACEABLE NON-SELF-RESETTING THERMAL CUT-OUT TEST	3) Nova Coil Inc. 5401 W. Franklin Dr., Franklin, WI 53132 USA

Summary of compliance with National Differences:

List of countries addressed

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

Copy of marking plate:

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

SAGN-036T:

SAGN-030T:

MODEL NO.: SAGN-030T
رقم الموديل:

SERIAL NO.: W261736595
الرقم التسلسلي:

VOLTS: 220/240
الڤولت:

PHASE: 1
الطور:

HERTZ: 50
التردد بالهرتز:

OUTDOOR CURRENT: 13.19
تيار الوحدة الخارجية:

REFRIGERANT: R-410A
غاز التبريد:

DESIGN PRESSURE HIGH: 550 PSIG 3792 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

OUTDOOR UNIT FACTORY CHARGE: 124.8 OZ. 3.54 kg
شحنة الوحدة الخارجية من المصنع:

TOTAL SYSTEM CHARGE: OZ. kg
الشحنة الإجمالية للنظام:

MATCHED SYSTEM RATING: تقدير النظام المتطابق:	EL3T3012SPACTA	
	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المعياري:	12.00	14.50
RATED POWER: القدرة الكهربائية المعيارية:	2500.00	3050.00
RATED CAPACITY: قدرة التبريد المعيارية:	29600.00	27500.00
E.E.R: معدل كفاءة طاقة التبريد:	11.840	9.016

IPX4

RHEEM SALES COMPANY INC.
FORT SMITH, ARKANSAS

MADE IN MEXICO
تم التجميع في:

92-22050-17

SAGN-024T:

MODEL NO.: SAGN-024T
رقم الموديل:
SERIAL NO.: W261736594
الرقم التسلسلي:
VOLTS: 220/240
الڤولت:
PHASE: 1
الطور:
HERTZ: 50
التردد بالهرتز:
OUTDOOR CURRENT: 11.21
تيار الوحدة الخارجية:
REFRIGERANT: R-410A
غاز التبريد:
DESIGN PRESSURE HIGH: 550 PSIG 3792 kPa
الضغط المرتفع حسب التصميم:
DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:
OUTDOOR UNIT FACTORY CHARGE: 82.9 OZ. 2.35 kg
شحنة الوحدة الخارجية من المصنع:
TOTAL SYSTEM CHARGE: OZ. kg
الشحنة الإجمالية للنظام:

MATCHED SYSTEM RATING: تقدير النظام المتطابق:	EL3T2412SPACTA	
	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المعياري:	9.50	11.50
RATED POWER: القدرة الكهربائية المعيارية:	2000.00	2490.00
RATED CAPACITY: قدرة التبريد المعيارية:	26000.00	24200.00
E.E.R.: معدل كفاءة طاقة التبريد:	13.000	9.719

IPX4
RHEEM SALES COMPANY INC.
FORT SMITH, ARKANSAS
MADE IN MEXICO
تم التجميع في:
92-22050-17

SAGN-018T:

MODEL NO.: SAGN-018T
رقم الموديل:

SERIAL NO.: W261736593
الرقم التسلسلي:

VOLTS: 220/240
الڤولت:

PHASE: 1
الطور:

HERTZ: 50
التردد بالهرتز:

OUTDOOR CURRENT: 9.75
تيار الوحدة الخارجية:

REFRIGERANT: R-410A
غاز التبريد:

DESIGN PRESSURE HIGH: 550 PSIG 3792 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

OUTDOOR UNIT FACTORY CHARGE: 69.0 OZ. 1.96 kg
شحنة الوحدة الخارجية من المصنع:

TOTAL SYSTEM CHARGE: OZ. kg
الشحنة الإجمالية للنظام:

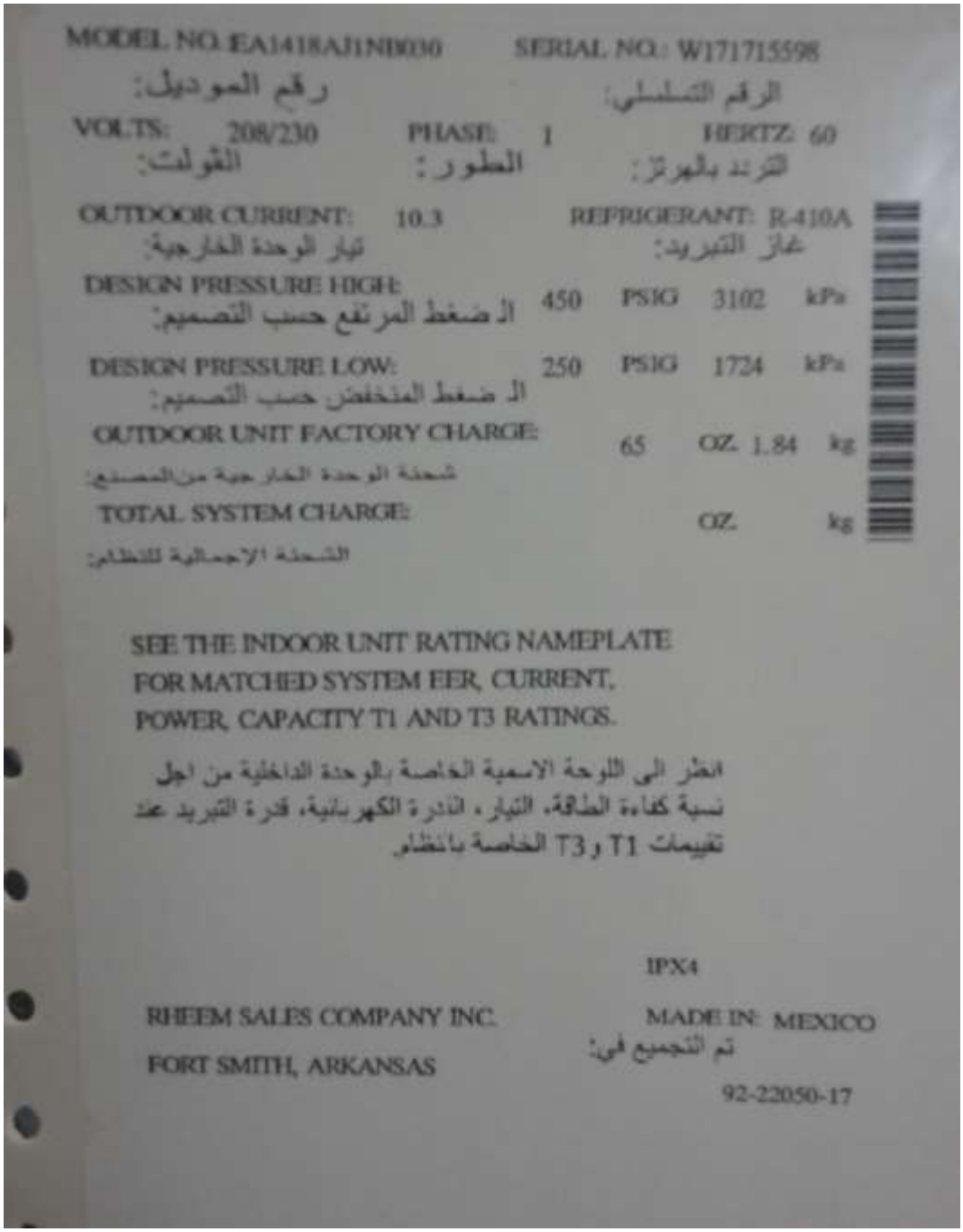
MATCHED SYSTEM RATING: تقدير النظام المتطابق:	EL3T1812SPACTA	
	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المعياري:	7.00	9.00
RATED POWER: القدرة الكهربائية المعيارية:	1496.72	1920.00
RATED CAPACITY: قدرة التبريد المعيارية:	19460.62	17450.00
E.E.R.: معدل كفاءة طاقة التبريد:	13.002	9.089

RHEEM SALES COMPANY INC.
FORT SMITH, ARKANSAS

IPX4
MADE IN MEXICO
تم التجميع في:

92-22050-17

EA1418AJ1NB030:



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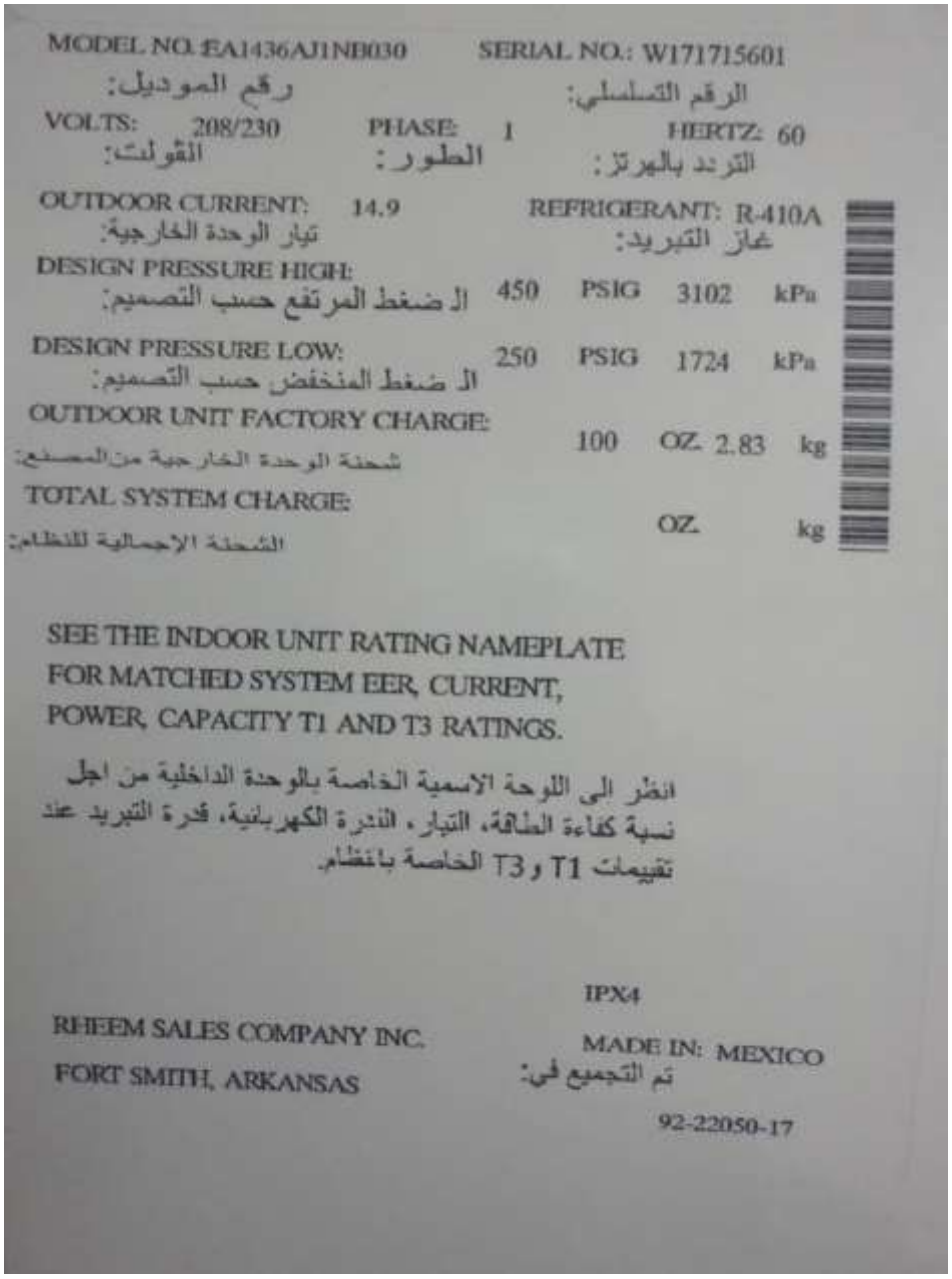
EA1436AJ1NB030:



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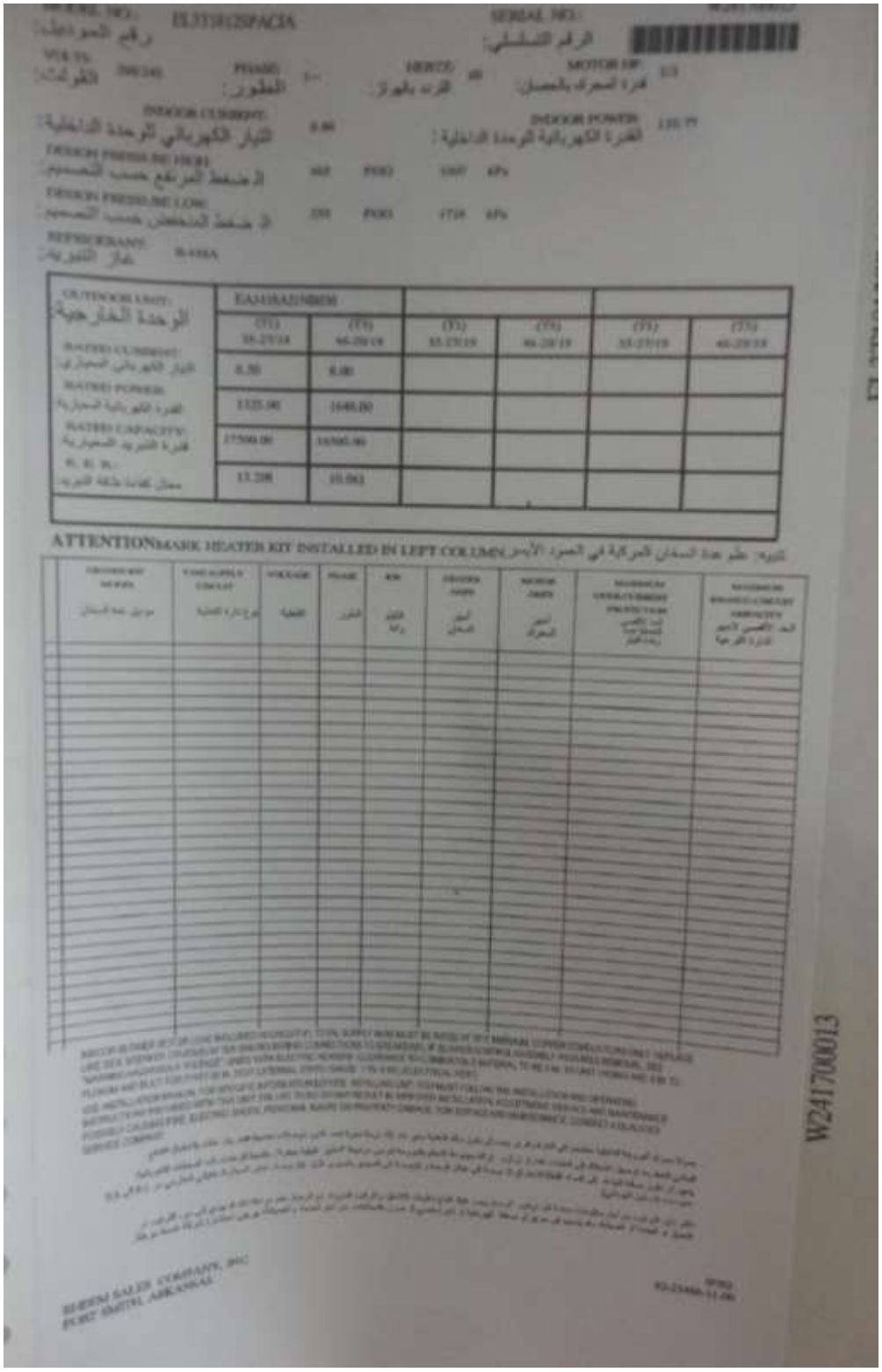

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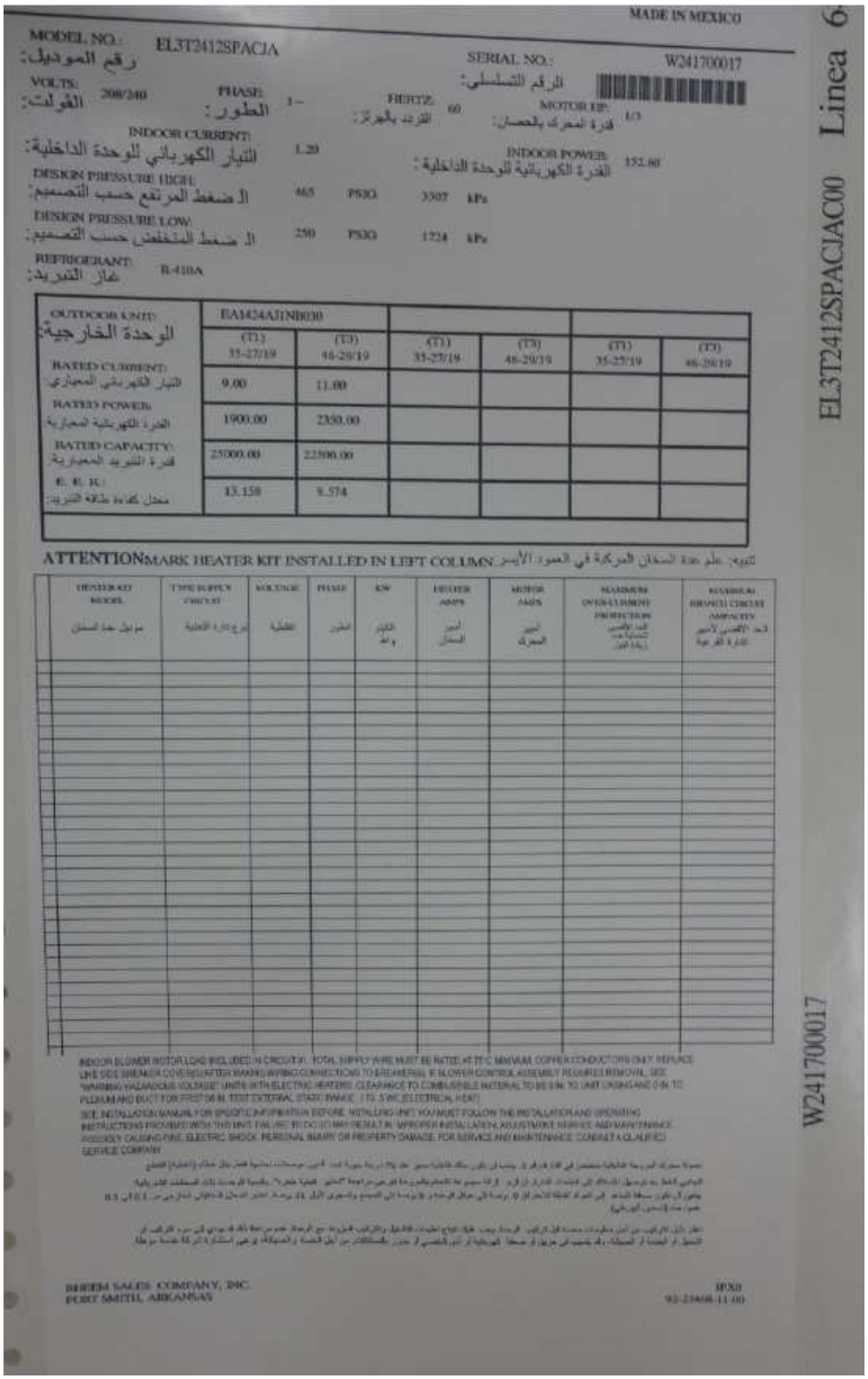

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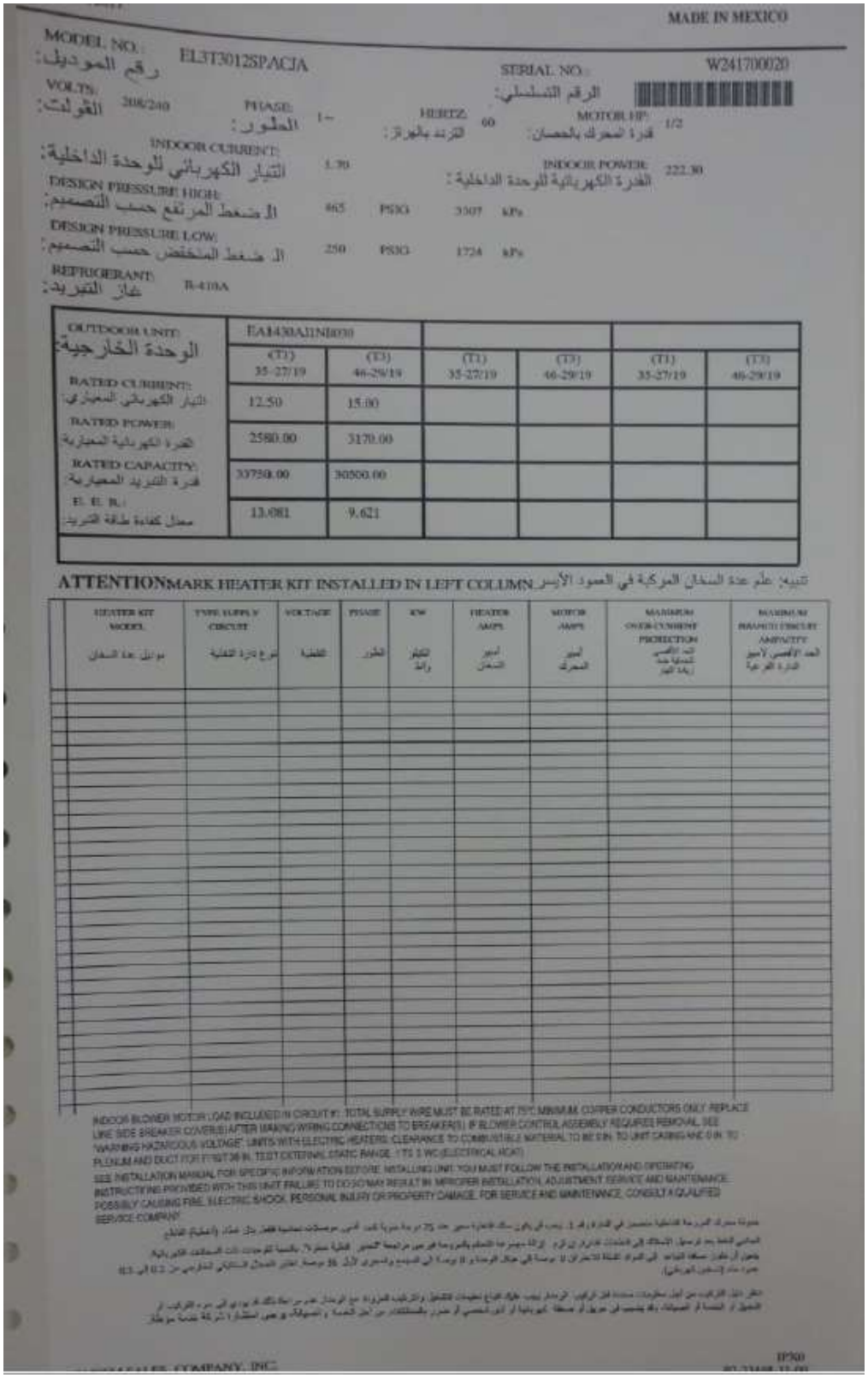


MADE IN MEXICO

MODEL NO.: EL3T3012SPACJA
رقم الموديل:

SERIAL NO.: W241700020
الرقم التسلسلي:

VOLTS: 208/240
الفولت:

PHASE: 1~
الطور:

HERTZ: 60
التردد بالهرتز:

MOTOR HP: 1/2
قدرة المحرك بالحصان:

INDOOR CURRENT: 1.30
التيار الكهربائي للوحدة الداخلية:

INDOOR POWER: 222.30
القدرة الكهربائية للوحدة الداخلية:

DESIGN PRESSURE HIGH: 465 PSIG 3307 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

REFRIGERANT: R-410A
غاز التبريد:

OUTDOOR UNIT: الوحدة الخارجية	EA1430AJ1NB030					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المقنن	12.50	15.00				
RATED POWER: القدرة الكهربائية المقننة	2580.00	3170.00				
RATED CAPACITY: قدرة التبريد المقننة	33750.00	30500.00				
E. E. R.: معدل كفاءة طاقة التبريد	13.081	9.621				

ATTENTION: MARK HEATER KIT INSTALLED IN LEFT COLUMN تنبيه: علم عدة السخان المركبة في العمود الأيسر

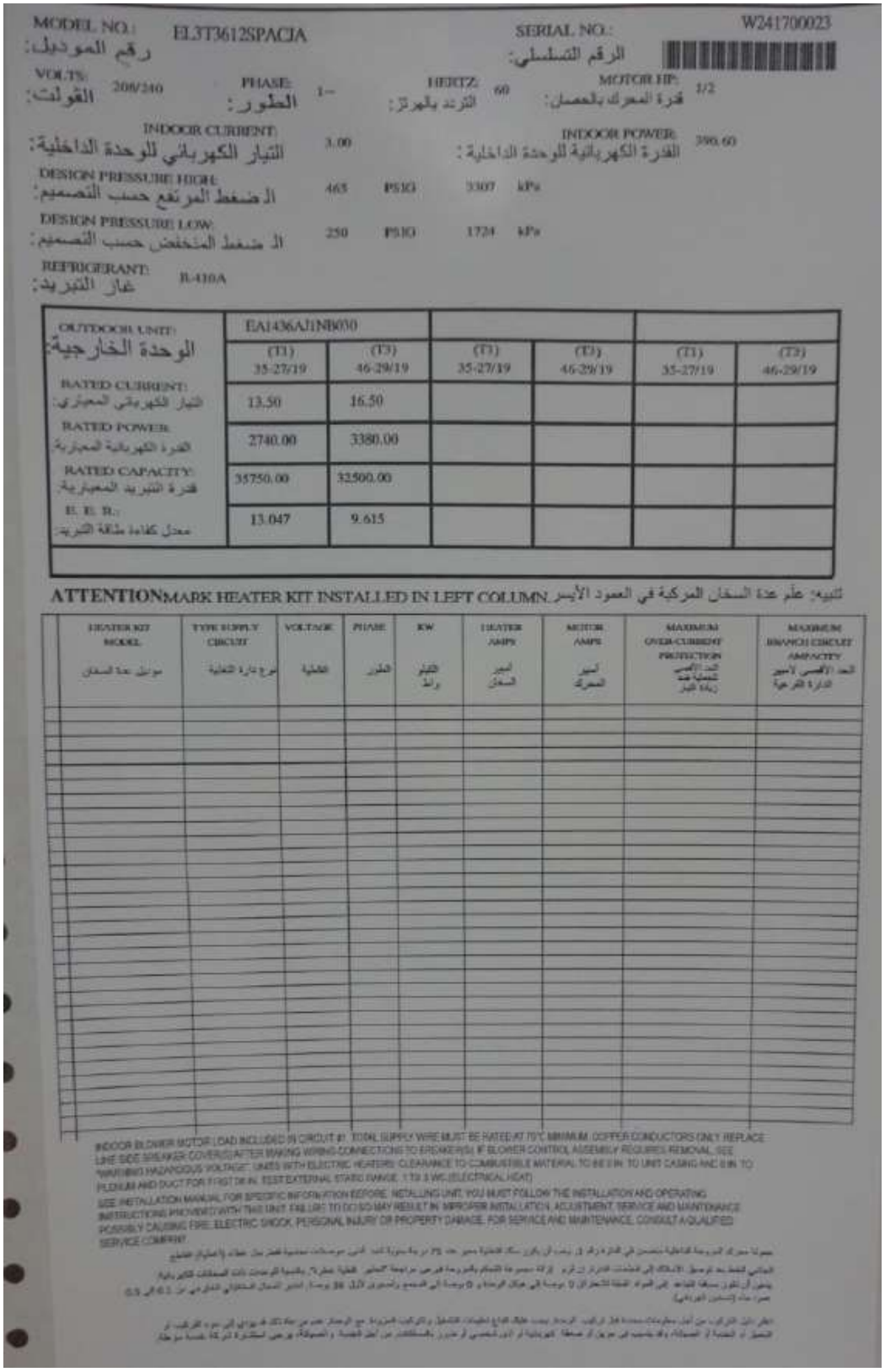
HEATER KIT MODEL موديل عدة السخان	TYPE SUPPLY CIRCUIT نوع دارة التغذية	VOLTAGE الفولطية	PHASE الطور	KW الكيلو واط	HEATER AMPS أمبير السخان	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTION	MAXIMUM BRANCH CIRCUIT AMPACITY

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT #: TOTAL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE BREAKER COVER(S) AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE". UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR FIRST 36 IN. TEST EXTERNAL STATIC RANGE: 1 TO 3 W.C. (ELECTRICAL HEAT)

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

IP30

EL3T3612SPACJA:



MODEL NO.: EL3T3612SPACJA
رقم الموديل:
SERIAL NO.: W241700023
الرقم التسلسلي:

VOLTS: 208/230 القولت:
PHASE: 1~ الطور:
HERTZ: 60 التردد بالهرتز:
MOTOR HP: 1/2 قدرة المحرك بالحصان:

INDOOR CURRENT: 3.00 التيار الكهربائي للوحدة الداخلية:
INDOOR POWER: 390.60 القدرة الكهربائية للوحدة الداخلية:

DESIGN PRESSURE HIGH: 465 PSIG 3307 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

REFRIGERANT: R-410A
غاز التبريد:

OUTDOOR UNIT: الوحدة الخارجية:	EA1436AJ1NB030					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المجاري:	13.50	16.50				
RATED POWER: القدرة الكهربائية المجارية	2740.00	3380.00				
RATED CAPACITY: قدرة التبريد المجارية	35750.00	32500.00				
E. E. R.: معدل كفاءة مثلثة التبريد	13.047	9.615				

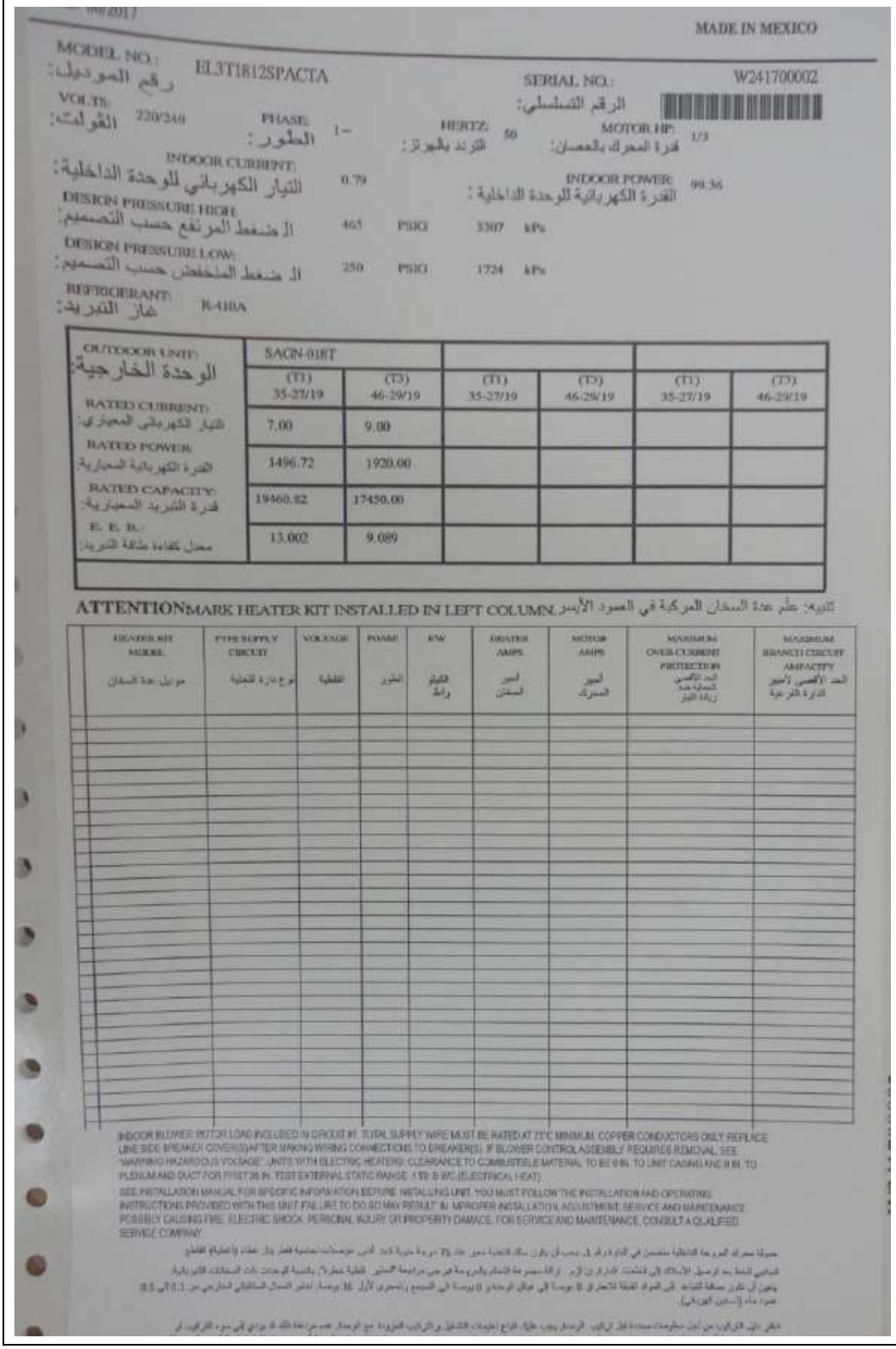
ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN. تنبيه: علّم عدة السخان المركبة في العمود الأيسر

HEATER KIT MODEL موديل عدة السخان	TYPE SUPPLY CIRCUIT نوع دارة التغذية	VOLTAGE الفولتية	PHASE الطور	KW الكيلو واط	HEATER AMPS أمبير السخان	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTION الحد الأقصى للحماية من زيادة التيار	MAXIMUM BRANCH CIRCUIT AMPACITY الحد الأقصى لأمبير الدارة الفرعية

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT #1. TO INL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE SHEARER COVERS AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE WARNING HAZARDOUS VOLTAGE. UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR FIRST 36 IN. ESP EXTERNAL STATIC RANGE .1 TO .5 WC (ELECTRICAL HEAT)

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

EL3T1812SPACTA:



MADE IN MEXICO

MODEL NO.: رقم الموديل: EL3T1812SPACTA

SERIAL NO.: الرقم التسلسلي: W241700002

VOLTS: الفولت: 220/240 PHASE: الطور: 1~ HERTZ: التردد بالهرتز: 50 MOTOR HP: قدرة المحرك بالحصان: 1/3

INDOOR CURRENT: التيار الكهربائي للوحدة الداخلية: 0.79 INDOOR POWER: القدرة الكهربائية للوحدة الداخلية: 99.36

DESIGN PRESSURE HIGH: الضغط المرتفع حسب التصميم: 465 PSIG 3307 kPa

DESIGN PRESSURE LOW: الضغط المنخفض حسب التصميم: 250 PSIG 1724 kPa

REFRIGERANT: غاز التبريد: R-410A

OUTDOOR UNIT: الوحدة الخارجية	5ACN-018T					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المقنن	7.00	9.00				
RATED POWER: القدرة الكهربائية المقننة	1496.72	1920.00				
RATED CAPACITY: قدرة التبريد المقننة	19460.82	17450.00				
E. E. R.: معدل كفاءة طاقة التبريد	13.002	9.089				

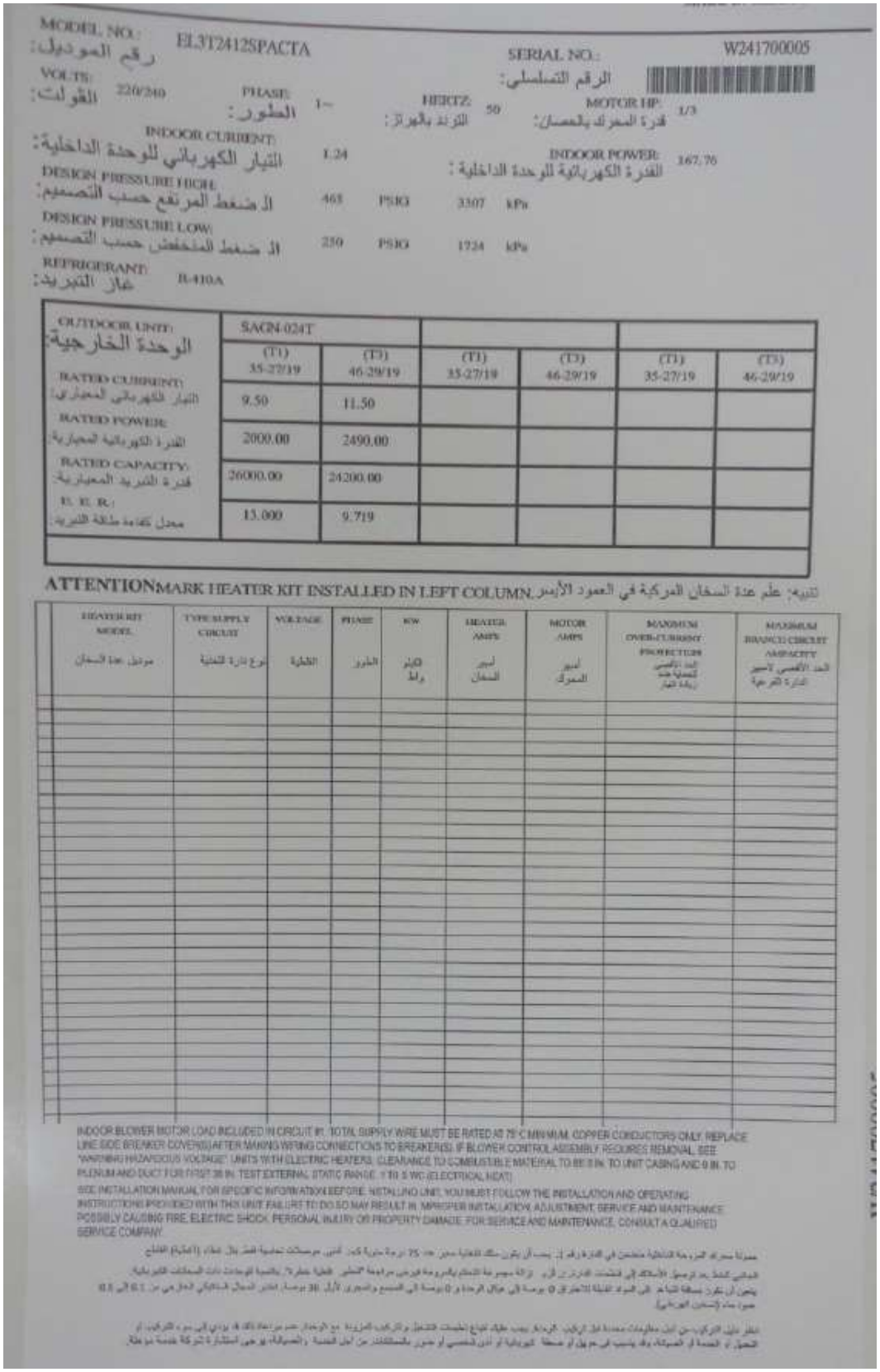
ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN. تنبيه: علم عدة السخان المركبة في العمود الأيسر

HEATER KIT MODEL موديل عدة السخان	TYPE SUPPLY CIRCUIT نوع دائرة التغذية	VOLTAGE الفولطية	PHASE الطور	KW الكيلو واط	HEATER AMPS أمبير السخان	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTION الحد الأقصى للحماية ضد زيادة التيار	MAXIMUM BRANCH CIRCUIT AMPACITY الحد الأقصى لأمبير الدائرة الفرعية

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT #1. TOTAL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE BREAKER COVERS(S) AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE". UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR FIRST 36 IN. TEST EXTERNAL STATIC RANGE .1 TO .5 IWC (ELECTRICAL HEAT).

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY, OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

EL3T2412SPACTA:



MODEL NO.: EL3T2412SPACTA
رقم الموديل:

SERIAL NO.: W241700005
الرقم التسلسلي:

VOLTS: 220/240
الفولت:

PHASE: 1~
الطور:

HERTZ: 50
التردد بالهرتز:

MOTOR HP: 1/3
قدرة المحرك بالحصان:

INDOOR CURRENT: 1.24
التيار الكهربائي للوحدة الداخلية:

INDOOR POWER: 167.76
القدرة الكهربائية للوحدة الداخلية:

DESIGN PRESSURE HIGH: 465 PSIG 3307 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

REFRIGERANT: R-410A
غاز التبريد:

OUTDOOR UNIT: الوحدة الخارجية	SAGN-024T					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المقنن	9.50	11.50				
RATED POWER: القدرة الكهربائية المقننة	2000.00	2490.00				
RATED CAPACITY: قدرة التبريد المقننة	26000.00	24200.00				
E. E. R.: معدل كفاءة طاقة التبريد	13.000	9.719				

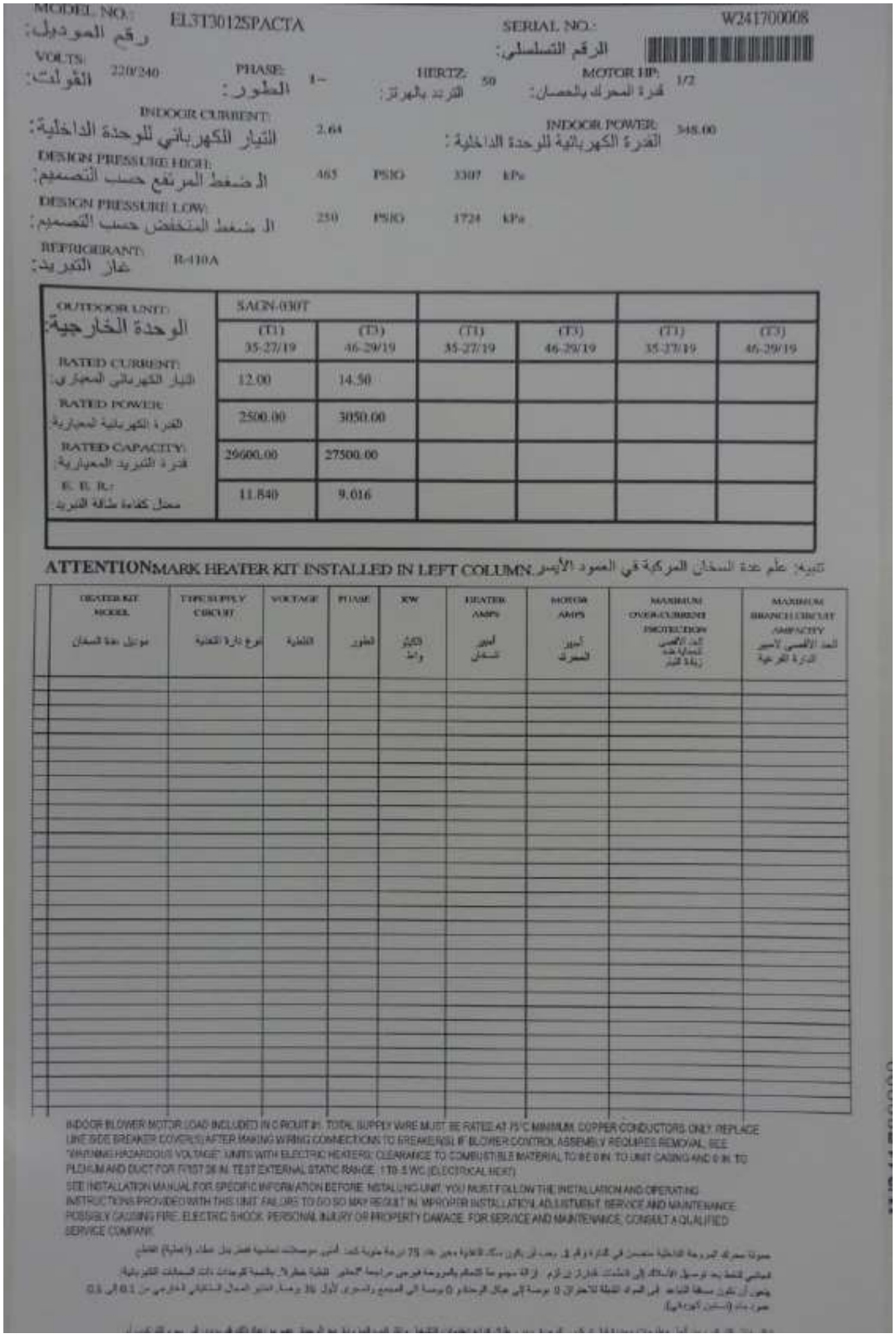
ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN. تنبيه: علم عدة السخان المركبة في العمود الأيسر

HEATER KIT MODEL موديل عدة السخان	TYPE SUPPLY CIRCUIT نوع دائرة التغذية	VOLTAGE الفولتية	PHASE الطور	KW ك.واط	HEATER AMPS أمبير السخان	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTOR الحد الأقصى للحماية ضد زيادة التيار	MAXIMUM BRANCH CIRCUIT AMPACITY الحد الأقصى لأمبير الدائرة الفرعية

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT #1. TOTAL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE BREAKER COVER(S) AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE" UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR FIRST 36 IN. TEST EXTERNAL STATIC RANGE .1 TO .5 W.C (ELECTRICAL HEAT)

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

EL3T3012SPACTA:



MODEL NO.: رقم الموديل: EL3T3012SPACTA

SERIAL NO.: الرقم التسلسلي: W24170008

VOLTS: الفولت: 220/240

PHASE: الطور: 1~

HERTZ: التردد بالهرتز: 50

MOTOR HP: قدرة المحرك بالحصان: 1/2

INDOOR CURRENT: التيار الكهربائي للوحدة الداخلية: 2.64

INDOOR POWER: القدرة الكهربائية للوحدة الداخلية: 548.00

DESIGN PRESSURE HIGH: الضغط المرتفع حسب التصميم: 465 PSIG 3307 kPa

DESIGN PRESSURE LOW: الضغط المنخفض حسب التصميم: 250 PSIG 1724 kPa

REFRIGERANT: غاز التبريد: R-410A

OUTDOOR UNIT: الوحدة الخارجية	5AGN-030T					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المقنن	12.00	14.50				
RATED POWER: القدرة الكهربائية المقننة	2500.00	3050.00				
RATED CAPACITY: قدرة التبريد المقننة	29600.00	27500.00				
E. E. R.: معدل كفاءة طاقة التبريد	11.840	9.016				

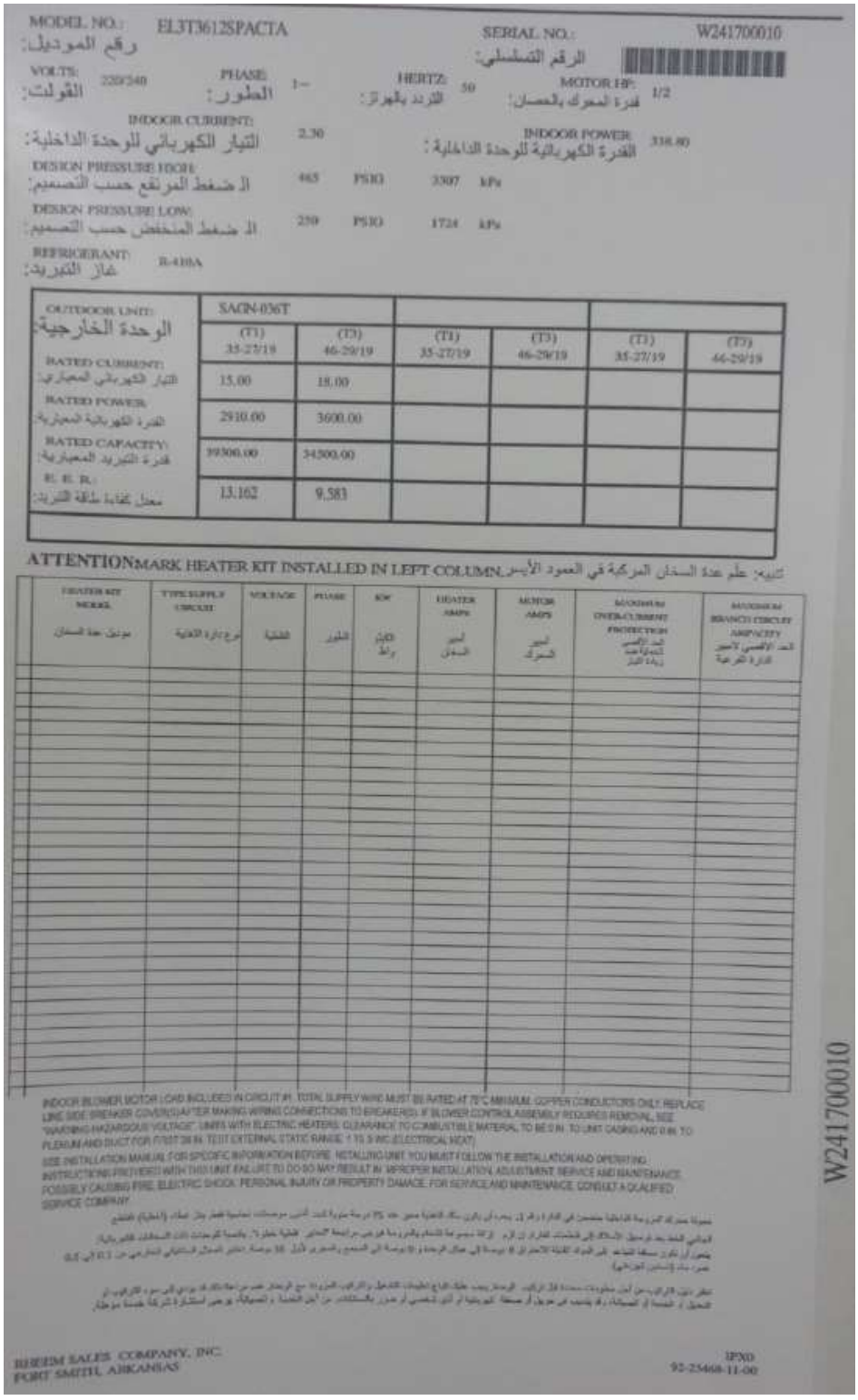
ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN. تنبيه: علم عدة التسخين المركبة في العمود الأيسر

HEATER KIT MODEL موديل عدة التسخين	TYPE SUPPLY CIRCUIT نوع دارة التغذية	VOLTAGE التغذية	PHASE الطور	KW كيلو واط	HEATER AMPS أمبير التسخين	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTION الحد الأقصى لحماية حالة زيادة التيار	MAXIMUM BRANCH CIRCUIT AMPACITY الحد الأقصى لأمبير الدارة الفرعية

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT #1. TOTAL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE BREAKER COVER(S) AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE" UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR FIRST 36 IN. TEST EXTERNAL STATIC RANGE: 1 TO .5 W.C. (ELECTRICAL HEAT)

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

EL3T3612SPACTA:



MODEL NO.: EL3T3612SPACTA
رقم الموديل:

SERIAL NO.: W241700010
الرقم التسلسلي:

VOLTS: 220/240
الفولت:

PHASE: 1~
الطور:

HERTZ: 50
التردد بالهرتز:

MOTOR HP: 1/2
قدرة المحرك بالحصان:

INDOOR CURRENT: 2.30
التيار الكهربائي للوحدة الداخلية:

INDOOR POWER: 338.40
القدرة الكهربائية للوحدة الداخلية:

DESIGN PRESSURE HIGH: 465 PSIG 3307 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

REFRIGERANT: R-410A
غاز التبريد:

OUTDOOR UNIT: الوحدة الخارجية	SACN-036T					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المعياري:	15.00	18.00				
RATED POWER: القدرة الكهربائية المعيارية:	2910.00	3600.00				
RATED CAPACITY: قدرة التبريد المعيارية:	39300.00	34500.00				
E. E. R.: معدل كفاءة طاقة التبريد:	13.162	9.583				

ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN. تنبيه: علم عدة السخان المركبة في العمود الأيسر

HEATER KIT MODEL موديل عدة السخان	TYPE SUPPLY CIRCUIT نوع دارة التغذية	VOLTAGE الفولتية	PHASE الطور	KW الكيلو واط	HEATER AMPS أمبير السخان	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTION الحد الأقصى للحماية من زيادة التيار	MAXIMUM BRANCH CIRCUIT AMPACITY الحد الأقصى لأمبير قدرة الفرعية

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT #1. TOTAL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE SHEARER COVERS(S) AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE" LINES WITH ELECTRIC HEATERS. CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR 1"/30T 28 IN. TEST (EXTERNAL STATIC RANGE: 1 TO .5 WC (ELECTRICAL HEAT)

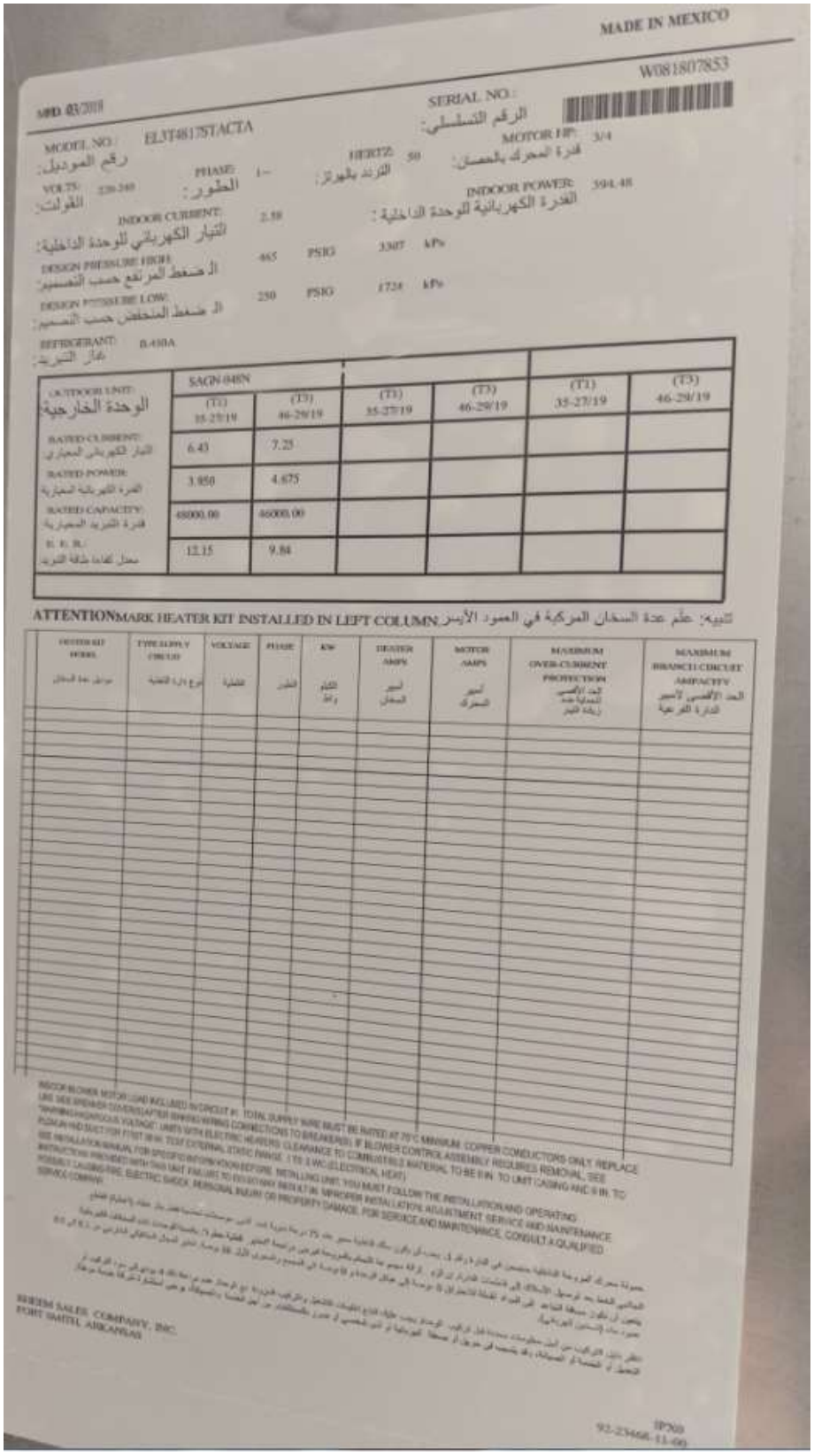
SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

W241700010

REEEM SALES COMPANY, INC.
FORT SMITH, ARKANSAS

IPXD
92-25468-11-00

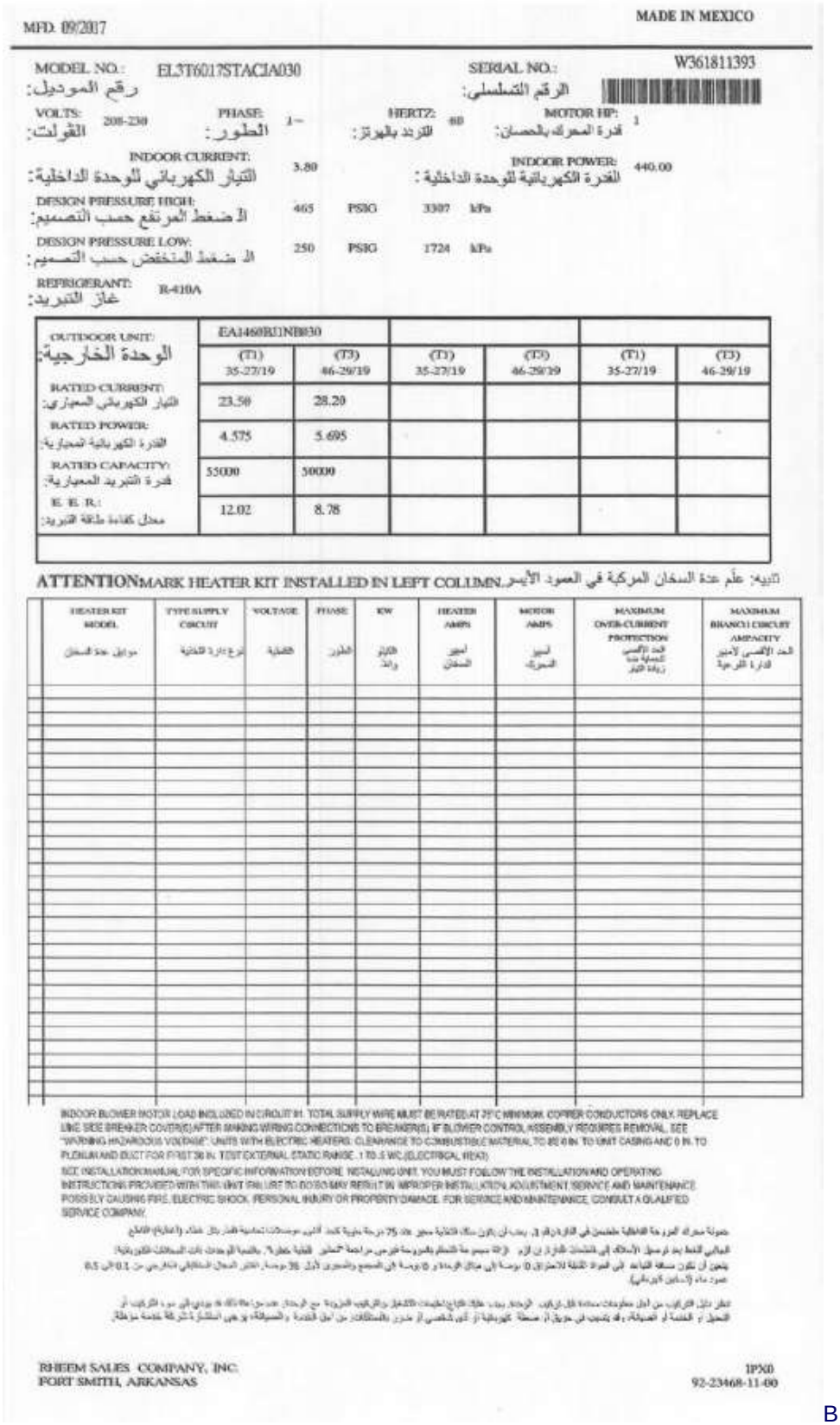
EL3T4817SPACTA:



SAGN-048N


MODEL NO.: SAGN-048N
SERIAL NO.: W081807843
VOLTS: 380-415
PHASE: 3
HERTZ: 50
OUTDOOR CURRENT: 7.43
REFRIGERANT: R-410A
DESIGN PRESSURE HIGH: 550 PSIG 3792 kPa
DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
OUTDOOR UNIT FACTORY CHARGE: 128 OZ. 3.63 kg
TOTAL SYSTEM CHARGE: OZ. kg
MATCHED SYSTEM RATING
EL3T4817STACTA
(T1) 35-27/19
(T3) 46-29/19
RATED CURRENT: 7.5 1.18
RATED POWER: 4.04 10.00
RATED CAPACITY: 46500.00 45500.00
E.E.R.: 11.510 9.305
IPX4
RHEEM SALES COMPANY INC.
FORT SMITH, ARKANSAS
MADE IN MEXICO
92-22050-17

EL3T6017STACJA030



MFD: 09/2017

MADE IN MEXICO

MODEL NO.: EL3T6017STACJA030
رقم الموديل:

SERIAL NO.: W361811393
الرقم التسلسلي:

VOLTS: 208-230 الفولت:

PHASE: 1~ الطور:

HERTZ: 60 التردد بالهيرتز:

MOTOR HP: 1 قدرة المحرك بالحصان:

INDOOR CURRENT: 3.80 التيار الكهربائي للوحدة الداخلية:

INDOOR POWER: 440.00 القدرة الكهربائية للوحدة الداخلية:

DESIGN PRESSURE HIGH: 465 PSIG 3307 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

REFRIGERANT: R-410A
غاز التبريد:

OUTDOOR UNIT: الوحدة الخارجية:	EA1460B1NB030					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المعياري:	23.50	28.20				
RATED POWER: القدرة الكهربائية المعيارية:	4.575	5.695				
RATED CAPACITY: قدرة التبريد المعيارية:	55000	50000				
E. E. R.: معدل كفاءة طاقة التبريد:	12.02	8.78				

ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN. تنبيه: علّم عدة السخان المركبة في العمود الأيسر.

HEATER KIT MODEL موديل عدة السخان	TYPE SUPPLY CIRCUIT نوع دارة التغذية	VOLTAGE الفولتية	PHASE الطور	KW الكيلو واط	HEATER AMPS أمبير السخان	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTION الحد الأقصى للحماية ضد زيادة التيار	MAXIMUM BRANCH CIRCUIT AMPACITY الحد الأقصى لأمبير قدرة الدارة الفرعية

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT #1. TOTAL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE BREAKER COVER(S) AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE". UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR FIRST 36 IN. TEST EXTERNAL STATIC RANGE .1 TO .5 WC (ELECTRICAL HEAT).

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

RHEEM SALES COMPANY, INC.
FORT SMITH, ARKANSAS

IPX0
92-23468-11-00

B

EA1460BJ1NB030

EL3T6017STACTA

MFD 09/2017

MADE IN MEXICO

MODEL NO.: EL3T6017STACTA

SERIAL NO.: W361811389

VOLTS: 220-240 PHASE: 1~ HERTZ: 50 MOTOR HP: 1

INDOOR CURRENT: 2.70

INDOOR POWER: 550.00

DESIGN PRESSURE HIGH: 465 PSIG 3207 kPa

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa

REFRIGERANT: R-410A

OUTDOOR UNIT:	SAON-060N					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT:	7.30	8.72				
RATED POWER:	4.850	5.520				
RATED CAPACITY:	57250	53300				
E. E. R.:	11.80	9.66				

ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN

HEATER KIT MODEL	WIRE SUPPLY CIRCUIT	VOLTAGE	PHASE	KW	HEATER AMPS	MOTOR AMPS	ADDITIONAL OVER-CURRENT PROTECTION	MINIMUM BRANCH CIRCUIT AMPACITY

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT R. TOTAL SUPPLY WIRE MUST BE RATED AT 75° C MINIMUM. USE FOR CONDUCTORS ONLY. REPLACE LINE SIDE BREAKER COVERS AFTER MAKING WIRING CONNECTIONS TO BREAKERS. IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE". UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE MIN. TO UNIT CASING ARE MIN. TO PLENUM AND DUCT FOR FIRST MIN. TEST (EXTERNAL STATIC PRESS. (TO SAVE ELECTRICAL HEAT)

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, MALFUNCTION, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

RHEEM SALES COMPANY, INC.
FORT SMITH, ARKANSAS

SAGN-060N

MODEL NO.: SAGN-060N
رقم الموديل:

SERIAL NO.: W371807617
الرقم التسلسلي:

VOLTS: 380-415
الفولت:

PHASE: 3
الطور:

HERTZ: 50
التردد بالهرتز:

OUTDOOR CURRENT: 9.10
تيار الوحدة الخارجية:

REFRIGERANT: R-410A
غاز التبريد:

DESIGN PRESSURE HIGH: 550 PSIG 3792 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

OUTDOOR UNIT FACTORY CHARGE: 243 OZ. 6.89 kg
شحنة الوحدة الخارجية من المصنع:

TOTAL SYSTEM CHARGE: OZ. kg
الشحنة الإجمالية للنظام:

MATCHED SYSTEM RATING: تقدير النظام المتطابق:	EL3T6017STACTA	
	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المعياري:	7.30	8.72
RATED POWER: القدرة الكهربائية المعيارية:	4.850	5.520
RATED CAPACITY: قدرة التبريد المعيارية:	57250	53300
E.E.R: معدل كفاءة طاقة التبريد:	11.80	9.66

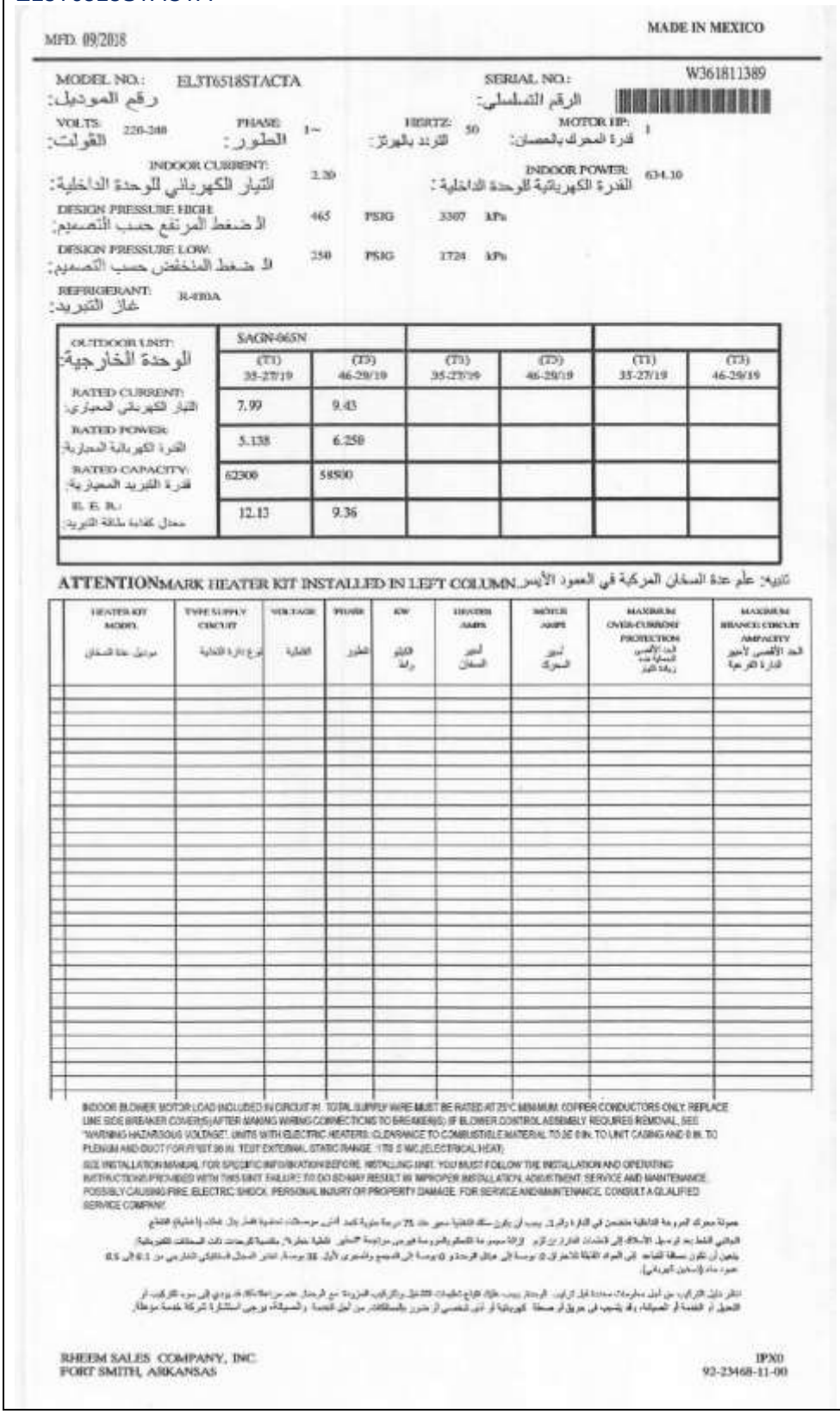
IPX4

RHEEM SALES COMPANY INC.
FORT SMITH, ARKANSAS

MADE IN MEXICO
تم التجميع في:

92-22050-17

EL3T6518STACTA



MFD: 09/2018

MADE IN MEXICO

MODEL NO.: EL3T6518STACTA
رقم الموديل:

SERIAL NO.: W361811389
الرقم التسلسلي:

VOLTS: 220-240 القولت:
PHASE: 1~ الطور:
HERTZ: 50 التردد بالهرتز:
MOTOR HP: 1 قدرة المحرك بالحصان:
INDOOR CURRENT: 2.20 التيار الكهربائي للوحدة الداخلية:
INDOOR POWER: 634.10 القدرة الكهربائية للوحدة الداخلية:
DESIGN PRESSURE HIGH: 465 PSIG 3307 kPa الضغط المرتفع حسب التصميم:
DESIGN PRESSURE LOW: 250 PSIG 1724 kPa الضغط المنخفض حسب التصميم:
REFRIGERANT: R-410A غاز التبريد:

OUTDOOR UNIT: الوحدة الخارجية:	SAGN-065N					
	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المقنن:	7.99	9.43				
RATED POWER: القدرة الكهربائية المقننة:	5.138	6.250				
RATED CAPACITY: قدرة التبريد المقننة:	62300	58500				
E. E. R.: معدل كفاءة طاقة التبريد:	12.13	9.36				

ATTENTION MARK HEATER KIT INSTALLED IN LEFT COLUMN. تنويه: علم عدة السخان المركبة في العمود الأيسر

HEATER KIT MODEL موديل عدة السخان	TYPE SUPPLY CIRCUIT نوع دارة التغذية	VOLTAGE الفولتية	PHASE الطور	KW الكيلو واط	HEATER AMPS أمبير السخان	MOTOR AMPS أمبير المحرك	MAXIMUM OVER-CURRENT PROTECTION الحد الأقصى للحماية من زيادة التيار	MAXIMUM BRANCH CIRCUIT AMPACITY الحد الأقصى لأمبير دارة التفرعية

INDOOR BLOWER MOTOR LOAD INCLUDED IN CIRCUIT R. TOTAL SUPPLY WIRE MUST BE RATED AT 75°C MINIMUM. COPPER CONDUCTORS ONLY. REPLACE LINE SIDE BREAKER COVER(S) AFTER MAKING WIRING CONNECTIONS TO BREAKER(S). IF BLOWER CONTROL ASSEMBLY REQUIRES REMOVAL, SEE "WARNING HAZARDOUS VOLTAGE". UNITS WITH ELECTRIC HEATERS: CLEARANCE TO COMBUSTIBLE MATERIAL TO BE 0 IN. TO UNIT CASING AND 0 IN. TO PLENUM AND DUCT FOR FIRST 36 IN. TEST EXTERNAL STATIC RANGE .1 TO .5 WC (ELECTRICAL HEAT).

SEE INSTALLATION MANUAL FOR SPECIFIC INFORMATION BEFORE INSTALLING UNIT. YOU MUST FOLLOW THE INSTALLATION AND OPERATING INSTRUCTIONS PROVIDED WITH THIS UNIT. FAILURE TO DO SO MAY RESULT IN IMPROPER INSTALLATION, ADJUSTMENT, SERVICE AND MAINTENANCE POSSIBLY CAUSING FIRE, ELECTRIC SHOCK, PERSONAL INJURY OR PROPERTY DAMAGE. FOR SERVICE AND MAINTENANCE, CONSULT A QUALIFIED SERVICE COMPANY.

RHEEM SALES COMPANY, INC.
FORT SMITH, ARKANSAS

IPX0
92-23468-11-00

TRF No. IEC60335_2_40K

SAGN-065N

MODEL NO.: SAGN-065N
رقم الموديل:

SERIAL NO.: W371807618
الرقم التسلسلي:

VOLTS: 380-415
الفولت:

PHASE: 3
الطور:

HERTZ: 50
التردد بالهرتز:

OUTDOOR CURRENT: 9.90
تيار الوحدة الخارجية:

REFRIGERANT: R-410A
غاز التبريد:

DESIGN PRESSURE HIGH: 550 PSIG 3792 kPa
الضغط المرتفع حسب التصميم:

DESIGN PRESSURE LOW: 250 PSIG 1724 kPa
الضغط المنخفض حسب التصميم:

OUTDOOR UNIT FACTORY CHARGE: 243 OZ. 6.89 kg
شحنة الوحدة الخارجية من المصنع:

TOTAL SYSTEM CHARGE: OZ. kg
الشحنة الإجمالية للنظام:

MATCHED SYSTEM RATING: تقدير النظام المتطابق:	EL3T6518STACTA	
	(T1) 35-27/19	(T3) 46-29/19
RATED CURRENT: التيار الكهربائي المعياري:	7.99	9.43
RATED POWER: القدرة الكهربائية المعيارية:	5.138	6.250
RATED CAPACITY: قدرة التبريد المعيارية:	62300	58500
E.E.R: معدل كفاءة طاقة التبريد:	12.13	9.36

IPX4

RHEEM SALES COMPANY INC.
FORT SMITH, ARKANSAS

MADE IN MEXICO
تم التجميع في:

92-22050-17

Test item particulars ..... :	Unit installed in end use test fixture representing end-use ambient conditions
Classification of installation and use ..... :	Class I fixed appliance
Supply Connection ..... :	Permanent connection
..... :	
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- A possible test case verdict of "NV" was included under this "informative test report" to indicate there was no verdict for the test case.	NV
- test object does meet the requirement .....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing .....:	See Tests Performed
Date of receipt of test item.....:	See Attachments
Date (s) of performance of tests .....:	See Attachments

General remarks:

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

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

The Product fulfils the requirements of ☐ IEC 62233:2005 (1. Edition)
☐ EN 62233:2008 (incl. Corr.1:2008)

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	☐ **Yes** ☒ **Not applicable**

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

Name and address of factory (ies) ..... :	INDUSTRIAS RHEEM S A DE C V PARQUE INDUSTRIAL ORADEL AVE NEW YORK 207 CARR ANAHUAC KM 12.5 88285 NUEVO LAREDO TAMPS MEXICO

General product information:

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

Each condensing section is intended to be installed with an appropriate capacity evaporating section as identified below. These units are for installation on commercial or residential premises with duct connections for conditioned air intake and discharge.

Rheem branded nomenclature is as identified below. Ruud branded constructions have similar nomenclature except the first letter is replaced with a “V”.

Condenser (ODU – Outdoor unit)		Air Handler (IDU – indoor unit)		Capacity (kBTU/hr)
SAGN-018TA	220-240V, 50Hz, 1 ~	EL3T1812SPACTA	220-240, 50Hz, 1~	18
SAGN-024TA	220-240V, 50Hz, 1 ~	EL3T2412SPACTA	220-240, 50Hz, 1~	24
SAGN-030TA	220-240V, 50Hz, 1 ~	EL3T3012SPACTA	220-240, 50Hz, 1~	30
SAGN-036TA	220-240V, 50Hz, 1 ~	EL3T3612SPACTA	220-240, 50Hz, 1~	36
EA1418AJ1NB030	208-230V, 60Hz, 1 ~	EL3T1812SPACJA030	208-240, 60Hz, 1~	18
EA1424AJ1NB030	208-230V, 60Hz, 1 ~	EL3T2412SPACJA030	208-240, 60Hz, 1~	24
EA1436AJ1NB030	208-230V, 60Hz, 1 ~	EL3T3012SPACJA030	208-240, 60Hz, 1~	30
EA1436AJ1NB030	208-230V, 60Hz, 1 ~	EL3T3612SPACJA030	208-240, 60Hz, 1~	36
EA1442AJ1NB030	208-230V, 60 Hz, 1 ~	EL3T4216SPACJA	208-240, 60Hz, 1~	42
EA1442BJ1NB030	208-230V, 60 Hz, 1 ~	EL3T4216SPACJA	208-240, 60Hz, 1~	42
SAGN-042TA	208-230V, 50 Hz, 1 ~	EL3T4216STACTA	220-240, 50Hz, 1~	42
SAGN-048NA	380-415, 50 Hz, 3 ~	EL3T4817STACTA	220-240, 50Hz, 1~	48
EA1448AJ1NB030	208-230V, 60Hz, 1 ~	EL3T4817SPACJA	208-240, 60Hz, 1~	48
SAGN-048N	380-415, 50 Hz, 3 ~	EL3T4817STACTA	220-240, 50Hz, 1~	48
EA1460BJ1NB030	208-230v, 60Hz, 1 ~	EL3T6017STACJA030	208-230, 60Hz, 1~	60
SAGN-060N	380-415V, 50Hz, 3~	EL3T6017STACJA	220-240V, 50HZ, 1 ~	60
SAGN-065N	380-415V, 50Hz, 3~	EL3T6518STACTA	220-240V, 50Hz, 1~	65
EA1465AJ1NB	208-230V, 1~, 60Hz	EL3T6517STACJA030	208-230V, 1~, 60Hz	65
EA1418AJ1NB030	208-230V, 1~, 60Hz	EL3T1812SPBCJA030	208-230V, 1~, 60Hz	18
EA1424AJ1NB030	208-230V, 1~, 60Hz	EL3T2212SPBCJA030	208-230V, 1~, 60Hz	24
EA1430AJ1NB030	208-230V, 1~, 60Hz	EL3T2212SPBCJA030	208-230V, 1~, 60Hz	30
EA1436AJ1NB030	208-230V, 1~, 60Hz	EL3T3212SPBCJA030	208-230V, 1~, 60Hz	36

The Air Handler (IDU) may optionally contain supplementary heater packages as follows:

Model	Electric Heater Kit Designation
EL3T1812SPACJA030	RXHJ-AA03J, RXHJ-AA05J, RXHJ-AA06J, RXHJ-AA08J
EL3T2412SPACJA030	RXHJ-AA03J, RXHJ-AA05J, RXHJ-AA06J, RXHJ-AA08J
EL3T3012SPACJA030	RXHJ-AA03J, RXHJ-AA05J, RXHJ-AA06J, RXHJ-AA08J, RXHJ-AA10J
EL3T3612SPACJA030	RXHJ-AA03J, RXHJ-AA05J, RXHJ-AA06J, RXHJ-AA08J, RXHJ-AA10J
EL3T1812SPACTA	RXHN-1111N03J, RXHN-1110N05J, RXHN-1110N06J, RXHN-1111N08J
EL3T2412SPACTA	RXHN-1111N03J, RXHN1110N05J, RXHN-1110N06J, RXHN-1111N08J, RXHN-0100N10J
EL3T3012SPACTA	RXHN-1111N03J, RXHN-1110N05J, RXHN-1110N06J, RXHN-1111N08J, RXHN-0010N10J
EL3T3612SPACTA	RXHN-1111N03J, RXHN0001N05J, RXHN-0001N06J, RXHN-1111N08J, RXHN-0001N10J

Air handler models EL3T1812SPBCJA030, EL3T2212SPBCJA030, EL3T2212SPBCJA030, and EL3T3212SPBCJA030 are similar to models EL3T1812SPACJA030, EL3T2412SPACJA030, EL3T3012SPACJA030, and EL3T3612SPACJA030 (respectively) except for the orifice diameter for the piston assembly.

Below is a summary of the amendments made to this report:
A1: Supplementary electric heater packages added for Air Handler (IDU) models

A2: Designation corrections

A3: Ratings corrections

A4: Add 42 kBTU/hr models EA1442AJ1NB030, SAGN-042TA, EL3T4216SPACJA, and EL3T4216STACTA. New supplementary heater packages for series EL3T**12SPACTA: RXHN-1111N03J, RXHN-1110N05J, RXHN-0001N05J, RXHN-1110N06J, RXHN-0001N06J, RXHN-1111N08J, RXHN-0100N10J, and RXHN-0010N10J, RXHN-0001N10J

A5: Add 48 kBTU/hr models EA1448AJ1NB030, SAGN-048NA, EL3T4817SPACJA, and EL3T4817STACTA. New model EA1442BJ1NB030 which is similar to existing model EA1442AJ1NB030 except for the compressor.

A6: Add 60 and 65 kBTU/hr models

A7: Addition of air handler models EL3T1812SPBCJA030, EL3T2212SPBCJA030, EL3T2212SPBCJA030, and EL3T3212SPBCJA030 with matched condensing units EA1418AJ1NB030, EA1424AJ1NB030, EA1430AJ1NB030, and EA1436AJ1NB030 (respectively). Also, the identification of the Ruud trademark model nomenclature.

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		P
5.2	Tests of clause 21 carried out on separate samples. Tests of clauses 11, 19 and 21 require pressure measurements made at various points in refrigerating system (IEC 60335-2-40)		P
	At least one additional specially prepared sample required for tests of annex FF (Leak simulation tests) (IEC 60335-2-40)	FLAMMABLE REFRIGERANTS NOT USED	N/A
	Temperatures on refrigerant piping measured during test of clause 11 (IEC 60335-2-40)		P
5.6	Appropriate controls rendered inoperative during test (IEC 60335-2-40)		P
5.7	Tests of clauses 10 and 11 carried out under most severe operating conditions within operating temperature range specified by manufacturer. Annex AA provide examples of such temperature conditions (IEC 60335-2-40)	Tested in 52C (125.6F) ambient	P
5.10	For split-package units, refrigerant lines installed in accordance with installation instructions (IEC 60335-2-40)		P
	Length of pipe is between 5 m and 7,5 m. (IEC 60335-2-40)	Line set is approximately 25 ft (7.62 m)	P
	Thermal insulation of refrigerant lines applied in accordance with installation instructions (IEC 60335-2-40)		P
5.101	Motor-compressor subjected to relevant test of clause 19 of IEC 60335-2-34, unless (IEC 60335-2-40)	Compressors are certified to IEC 60335-2-34	N/A
	motor-compressor comply with that standard (IEC 60335-2-40)	Compressors are certified to IEC 60335-2-34	P
5.102	Motor-compressors tested and comply with IEC 60335-2-34 need not additionally tested for clause 21 (IEC 60335-2-40)	Compressors are certified to IEC 60335-2-34	P
6	CLASSIFICATION		
6.1	Protection against electric shock: Class I, II, III (IEC 60335-2-40)..... :	Class I	P
6.2	Protection against harmful ingress of water, IP degree in accordance with IEC 60529 (IEC 60335-2-40)		**P**
	- appliances or parts intended for outdoor use be at least IPX4 (IEC 60335-2-40);	Rated IPX4	P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- appliances intended only for indoor use (excluding laundry rooms) be IPX0 (IEC 60335-2-40);	Rated IPX4	N/A
	- appliances intended to be used in laundry rooms be at least IPX1 (IEC 60335-2-40).	Rated IPX4	N/A
6.101	Degree of accessibility (accessible/not accessible to the general public) (IEC 60335-2-40)	accessible to general public	P
7	MARKING AND INSTRUCTIONS		
7.1	Rated voltage or voltage range (V) .....:	See general product information	P
	Symbol for nature of supply including number of phases, unless for single phase operation (IEC 60335-2-40)..... :	N/A for single phase constructions, P for 3~ constructions	P
	Rated frequency (Hz) .....:	See general product information	P
	Rated power input (W), or .....:	Unit rated in amperes	N/A
	Rated current (A) .....:	See general product information	P
	Manufacturer's or responsible vendor's name, trademark or identification mark.....:	 or 	P
	Model or type reference .....:	See general product information	P
	Symbol IEC 60417-5172, for class II appliances	Not class II appliance	N/A
	IP number, other than IPX0.....:	IPX4 marked	P
	Symbol IEC 60417-5180, for class III appliances, unless	Not class III appliance	N/A
	the appliance is operated by batteries only	Not battery operated	N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage	No water connection	N/A
	Mass of refrigerant (IEC 60335-2-40) ..... :	2097g R410a for model EA1418AJ1NA	P
	Refrigerant number in accordance with ANSI/ASHRAE 34 [ISO 817]..... :	R410a	P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Refrigerant identification (IEC 60335-2-40)..... :	R410a	P
	Permissible excessive operating pressure for sanitary hot water heat pumps (IEC 60335-2-40) :	Not a sanitary hot water heat pump	N/A
	Maximum operating pressure for heat exchanger for hydronic fan coil/air handling units (IEC 60335-2-40)..... :	No hydronic coils used	N/A
	Maximum operating pressure for the refrigerant circuit; if the permissible excessive operating pressure for the suction and discharge side differ, a separate indication is required; (IEC 60335-2-40) :		P
	Symbol for degree of protection against ingress of water, other than IPX0 (IEC 60335-2-40)..... :	Marked IPX4	N/A
	Separate marking of appliances with all rated characteristics of supplementary heaters (IEC 60335-2-40)..... :	Indoor unit only	P
	Marking of direction of fluid flow (IEC 60335-2-40)	Refrigerant flow direction identified by tubing diameter	N/A
	Flame symbol and instruction manual symbol of 7.6 visible when flammable refrigerant employed and following conditions exist (IEC 60335-2-40):		N/A
	- accessing parts expected to be subjected to maintenance or repair (IEC 60335-2-40);	No flammable refrigerant used	N/A
	- observing appliance under sale or installed conditions (IEC 60335-2-40);	No flammable refrigerant used	N/A
	- observing appliance packaging, if appliance charged with refrigerant (IEC 60335-2-40).	No flammable refrigerant used	N/A
	If a flammable refrigerant is used, the symbols for “read operator’s manual”, “operator’s manual; operating instructions” and “service indicator; read technical manual” (symbols ISO 7000-0790 (2004-01), ISO-7000-1641 (2004-01) and ISO 7000-1659 (2004-01)) shall be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height shall be at least 10 mm. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Additional warning symbol (flame symbol: W021 of ISO 7010) placed on nameplate of unit near declaration of refrigerant type and charge information. Perpendicular height be at least 10 mm, and symbol need not be in colour (IEC 60335-2-40)	No flammable refrigerant used	N/A
	When installed, the marking should be visible after removing a detachable part (IEC 60335-2-40)	No flammable refrigerant used	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Following warning also applied to appliance when flammable refrigerant employed. WARNING Appliance shall be installed, operated and stored in a room with a floor area larger than 'X' m² (only applies to appliances that are not fixed appliances) (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Not fixed appliances, minimum room size X specified on appliance. X in marking determined in m² by procedure described in Clause GG.2 for unventilated areas and X in marking be 4 if refrigerant charge of appliance is less than m_1 (see GG.1.1) (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Maximum allowable pressure for low-pressure side and high-pressure side marked on product (IEC 60335-2-40)	No flammable refrigerant used	N/A
	If not already visible when accessing service port and if service port provided, service port marked to identify type of refrigerant. If refrigerant is flammable, symbol B.3.2 of ISO 3864, be included, without specifying the colour (IEC 60335-2-40)	No flammable refrigerant used	N/A
7.2	Warning for stationary appliances for multiple supply		P
	Warning placed in vicinity of terminal cover		P
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	Markings shown in nameplate photos are to be updated to use hyphen instead of oblique stroke.	P
	Different rated values marked with the values separated by an oblique stroke	Markings to be updated to use hyphen instead of oblique stroke.	N/A
7.4	Appliances adjustable for different rated voltages, the voltage setting is clearly discernible	Voltage not adjustable	N/A
	Requirement met if frequent changes are not required and the rated voltage to which the appliance is to be adjusted is determined from a wiring diagram	Voltage not adjustable	N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless	Single ampere rating marked	N/A
	the power input is related to the arithmetic mean value of the rated voltage range	Single ampere rating marked	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear	Single ampere rating marked	N/A
7.6	Correct symbols used		P
	Flammable refrigerant, warning symbol W021 of ISO 7010, including colour and format, permanently placed on appliance. Perpendicular height of triangle containing "Caution, risk of fire"symbol be at least 30 mm (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Flammable refrigerant, symbol requiring reference to manual [ISO 7000-0790 (2004-01)], including colour and format, permanently placed on appliance (IEC 60335-2-40/A1 corr.1)	No flammable refrigerant used	N/A
	Symbol for nature of supply placed next to rated voltage	N/A for 1~ constructions P for 3~ constructions	P
	Symbol for class II appliances placed unlikely to be confused with other marking	Not class II appliance	N/A
	Units of physical quantities and their symbols according to international standardized system		P
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless		P
	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:		P
	- marking of terminals exclusively for the neutral conductor (letter N)		P
	- marking of protective earthing terminals (symbol IEC 60417-5019)		P
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard	No switches or incorporated controls. Intended operation using a SELV thermostat	N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means .....:	No switches or incorporated controls. Intended operation using a SELV thermostat	N/A
	This applies also to switches which are part of a control	No switches or incorporated controls. Intended operation using a SELV thermostat	N/A
	If figures are used, the off position indicated by the figure 0	No switches or incorporated controls. Intended operation using a SELV thermostat	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	The figure 0 indicates only OFF position, unless no confusion with the OFF position	No switches or incorporated controls. Intended operation using a SELV thermostat	N/A
7.11	Indication for direction of adjustment of controls	No switches or incorporated controls. Intended operation using a SELV thermostat	N/A
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	Appliances not accessible to general public, classification of clause 6.101 included (IEC 60335-2-40)	Accessible to general public	N/A
	Appliances using flammable refrigerants, an installation, service and operation manual, either separate or combined manuals, provided and include information given in annex DD (IEC 60335-2-40)	No flammable refrigerants used	N/A
	The instructions state that:		P
	- 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
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		N/A
	Sufficient details for installation or maintenance supplied (IEC 60335-2-40):		P
	- that the appliance shall be installed in accordance with national wiring regulations (IEC 60335-2-40);	Instructions to be updated to generically identify “national wiring regulations” instead of referencing the US/Canada codes.	P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- the dimensions of the space necessary for correct installation of the appliance including the minimum permissible distance to adjacent structures (IEC 60335-2-40);		P
	- for appliances with supplementary heaters, the minimum clearance from the appliance to combustible surfaces (IEC 60335-2-40);	Same 0 mm clearance applicable	P
	- a wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord (IEC 60335-2-40);	To be added to instructions	P
	- the range of external static pressures at which the appliance was tested (add-on heat pumps and appliances with supplementary heaters only) (IEC 60335-2-40);		P
	- the method of connection to the appliance to the electrical supply and interconnection of separate components (IEC 60335-2-40);		P
	- indication of which parts of the appliance are suitable for outdoor use, if applicable (IEC 60335-2-40);		P
	- details of type and rating of fuses , or rating of circuit breakers; (IEC 60335-2-40);		P
	- details of supplementary heating elements that may be used in conjunction with the appliance, including fitting instructions either with the appliance or with the supplementary heater (IEC 60335-2-40);		P
	- maximum and minimum water or brine operating temperatures (IEC 60335-2-40);		N/A
	- maximum and minimum water or brine operating pressures (IEC 60335-2-40).		N/A
	Open storage tanks of heat pumps for water heating, accompanied by an instruction sheet which state that the vent shall not be obstructed (IEC 60335-2-40)		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	SAGN manual to be updated to identify installation of a remote disconnect.	P
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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
7.12.4	Instructions for built-in appliances:		N/A
	- dimensions of space	Not built-in appliance	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		N/A
	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		N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		P
7.12.8	Instructions for appliances connected to the water mains:		N/A
	- max. inlet water pressure (Pa) .....:	Not connected to water mains	N/A
	- min. inlet water pressure, if necessary (Pa).....:		N/A
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		N/A
7.13	Instructions and other texts in an official language	To be provided in Arabic	P
7.14	Marking clearly legible and durable, rubbing test as specified	Representative testing conducted under 4788008226	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		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	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		N/A
7.101	Marking of fuses and overload protective devices, if replaceable (IEC 60335-2-40):		N/A
	- fuse rated current in amperes, type and rated voltage or (IEC 60335-2-40)		N/A
	- manufacturer and model of overload protective device (IEC 60335-2-40)		N/A
7.102	Marking for connection with aluminium wire, if necessary (IEC 60335-2-40)		N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		P
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P
	Lamps behind a detachable cover not removed, if conditions met	No lamps	N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap	No lamps	N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts	See Attachment 4 for details	P
	Use of test probe B of IEC 61032 through openings, with a force of 20 N: no contact with live parts		P
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts	See Attachment 4 for details	P
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032, with a force not exceeding 1 N: no contact with live parts of visible glowing heating elements	To openings in enclosure to access heating elements	P
8.1.4	Accessible part not considered live if:		P
	- safety extra-low a.c. voltage: peak value not exceeding 42,4 V		P
	- safety extra-low d.c. voltage: not exceeding 42,4 V	No DC SELV circuit	N/A
	- or separated from live parts by protective impedance	No protective impedance	N/A
	If protective impedance: d.c. current not exceeding 2 mA, and	No protective impedance	N/A
	a.c. peak value not exceeding 0,7 mA	No protective impedance	N/A
	- for peak values over 42,4 V up to and including 450 V, capacitance not exceeding 0,1 μF	No protective impedance	N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC	No protective impedance	N/A
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ	No protective impedance	N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		P
	- built-in appliances	Not built-in appliance	N/A
	- fixed appliances		P
	- appliances delivered in separate units		P
	As regards the products which have a dedicated installation panel or cover and which cannot be installed without them, compliance is checked according to 5.10 (after the installation as instructed in the installation manual). (IEC 60335-2-40)		P
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		P
	Only possible to touch parts separated from live parts by double or reinforced insulation		P
9	STARTING OF MOTOR-OPERATED APPLIANCES		P
	Requirements and tests are specified in part 2 when necessary		P
10	POWER INPUT AND CURRENT		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 .:	Appliance rated in amperes	N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless	Appliance rated in amperes	N/A
	the rated power input is related to the arithmetic mean value	Appliance rated in amperes	N/A
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2.....:	(see appended table)	P
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		P
	the rated current is related to the arithmetic mean value of the range		N/A
11	HEATING		P
11.1	No excessive temperatures in normal use (IEC 60335-2-40)		P
	Compliance is checked by the tests of annex C, if (IEC 60335-2-40):		N/A
	- temperature of motor winding exceeds values shown in table 3 (IEC 60335-2-40)	Per insulation class declaration	N/A
	- there is doubt about classification of insulation system of the motor (IEC 60335-2-40)	Per insulation class declaration	N/A
11.2	Placing and mounting of appliance (IEC 60335-2-40):		P
	- clearances to adjacent surfaces (IEC 60335-2-40);	No declared clearances	N/A
	- flow rates for liquid source or sink equipment be minimum, except for fan coils where flow rates and liquid temperatures be maximum (IEC 60335-2-40);	No liquid sources	N/A
	- static pressures (IEC 60335-2-40);		P
	- means of adjusting the flow, flow for tests be minimum obtainable (IEC 60335-2-40);	No flow adjustments	N/A
	- adjustable limit controls set at maximum cut-out setting and minimum differential (IEC 60335-2-40).	No adjustable limit controls	N/A
	Appliances with supplementary heaters, use test casing of clause 11.9 (IEC 60335-2-40)		P
11.2.1	Appliances with supplementary heaters, inlet duct connected to inlet air opening (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Appliance that includes or has provision for supplementary heater is fitted with a metal outlet duct in accordance with Figure 101a) or Figure 101b), depending on the direction of the airflow. (IEC 60335-2-40)		P
11.2.2	Ducted appliance without supplementary heaters, air outlet used (IEC 60335-2-40)	Pass for Cooling Operation testing N/A for Heating Operation testing with optional supplementary heaters.	P
11.3	Temperature rise determine by thermocouples or resistance method (IEC 60335-2-40)		P
11.4	Test performed at supply voltage between 0,94 and 1,06 times the rated voltage (IEC 60335-2-40)		P
	Heating elements energized at voltage which gives an electrical input of 1,15 times maximum rated power input (IEC 60335-2-40)		P
11.5	Test conducted in heating mode and cooling mode, if both exist (IEC 60335-2-40)		P
	All supplementary heating elements operative simultaneously (IEC 60335-2-40)		P
11.6	Defrost test in most unfavourable conditions, if needed (IEC 60335-2-40)	No defrost mode	N/A
11.7	Appliances operated continuously until steady conditions except for defrost tests (IEC 60335-2-40)		P
11.8	Temperatures not exceeding values of table 3 (IEC 60335-2-40)	(See appended tables)	P
	Protective devices do not operate (IEC 60335-2-40)		P
	Sealing compound not flowing out (IEC 60335-2-40)		P
	Temperature of air in outlet duct not exceed 90 °C (IEC 60335-2-40)		P
11.9	Test casing and installation of appliances in accordance with manufacturer's instructions (IEC 60335-2-40)		N/A
	Glass fibre insulation for appliances without indication of minimum clearances according to manufacturer; thermocouple in contact with enclosure (IEC 60335-2-40)		P
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		P
13.1	Leakage current not excessive and electric strength adequate		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Heating appliances operated at 1,15 times the rated power input (W).....:	Not a heating appliance	N/A
	Motor-operated appliances and combined appliances supplied at 1,06 times the rated voltage (V).....:	See Attachment 4 for test conditions	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
13.2	For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990	Class I appliance	N/A
	For other appliances, a low impedance ammeter may be used	Class I appliance	N/A
	Leakage current measurements .....: (IEC 60335-2-40)	(see appended table)	P
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4 .....:	(see appended table)	P
	No breakdown during the tests		P
14	TRANSIENT OVERVOLTAGES		N/A
	Appliances withstand the transient over-voltages to which they may be subjected	Sufficient clearances	N/A
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6.....:	Sufficient clearances	N/A
	No flashover during the test, unless	Sufficient clearances	N/A
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited	Sufficient clearances	N/A
15	MOISTURE RESISTANCE		P
15.1	Enclosure provides degree of moisture protection against ingress of water (rain, overflow from drain pan or defrosting), tests of clause 15.2, 15.3, 11.6 and 16) (IEC 60335-2-40)	Representative testing conducted under report 4786940990	P
	Motor-compressor not operated and detachable parts removed during tests of clause 15.2 and 15.3 (IEC 60335-2-40)		P
15.2	Tests in accordance with IEC 60529 in appliances other than IPX0, as specified (IEC 60335-2-40) .. :	IPX4 for outdoor units only, IPX0 for indoor units	P
15.3	Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (IEC 60335-2-40)	Drain pan located below all live parts. Compliance based on construction review	P
15.101	Spillage test as specified (IEC 60335-2-40)	Not wall or floor mounted	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	After spillage completed, appliance withstand test of clause 16 (IEC 60335-2-40)	Not wall or floor mounted	N/A
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		P
16.1	Leakage current not excessive and electric strength adequate	Representative testing conducted under report 4786940990	P
	Protective impedance disconnected from live parts before carrying out the tests		P
	Tests carried out at room temperature and not connected to the supply		P
16.2	Single-phase appliances: test voltage 1,06 times rated voltage (V).....:	Representative testing conducted under report 4786940990	P
	Three-phase appliances: test voltage 1,06 times rated voltage divided by √3 (V) .....:	Single phase	N/A
	Leakage current measurements .....: (IEC 60335-2-40)	(see appended table)	P
	Limit values doubled if:		P
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		P
	- the appliance has radio interference filters		N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified .....:	(see appended table)	N/A
16.3	Electric strength tests according to table 7 .....:	(see appended table)	P
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified .....:	(see appended table)	P
	No breakdown during the tests		P
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		P
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use .....:	208C max for class B windings.	P
	Appliance supplied with 1,06 or 0,94 times rated voltage under the most unfavourable short-circuit or overload likely to occur in normal use (V) .....:	254V per EL3T unit rating	P
	Basic insulation is not short-circuited		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K		P
	Temperature of the winding not exceeding the value specified in table 8		P
	However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1		N/A
18	ENDURANCE		N/A
	Requirements and tests are specified in part 2 when necessary	Not applicable per IEC 60335-2-40.	N/A
19	ABNORMAL OPERATION		P
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated.		P
	Failure of transfer medium flow, or of any control device, does not result in a hazard (IEC 60335-2-40)		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe (electric shock, fire or mechanical hazard, dangerous malfunction)		P
	Appliances are subjected to the tests specified in 19.2 to 19.10, 19.101, 19.102 and 19.103, as applicable. (IEC 60335-2-40)		P
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable	Component faults to be evaluated as part of the control circuit certification	N/A
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		P
	Appliances incorporating voltage selector switches subjected to the test of 19.15	No voltage selector switch	N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		P
	until steady conditions are established		P
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample	Non-resettable thermal cutout	P
19.2	Test of appliances with supplementary heaters (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
19.3	Test at temperature permitting continuous operation of the motor-compressor and electric heating elements at same time (IEC 60335-2-40)	No temperature at which the heating elements and compressor able to operate at the same time	N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited	(see appended table)	P
	Test of appliance with any defect which expected during normal use (IEC 60335-2-40)		P
19.5	Test of 19.4 repeated on class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath	Open element heaters used	N/A
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath	Open element heaters used	N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4	Open element heaters used	N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions	Open element heaters used	N/A
	The working voltage of the PTC heating element is increased by 5 % and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1,5 times working voltage or until the PTC heating element ruptures (V).....:	Open element heaters used	N/A
19.7	Test of appliance with motor rotors, other than motor-compressors and stationary circulation pumps in compliance with IEC 60335-2-51, operated for 15 days (360 h) or until protection device opens circuit (IEC 60335-2-40)	Locked rotor testing of motors with certification for locked rotor protection is excluded from evaluation scope	NV
	Insulation of motor windings (IEC 60335-2-40).... :		NV
	Temperature of enclosure does not exceed (°C) (IEC 60335-2-40)..... :		NV
	Temperature of the windings does not exceed the values shown in the table 8; temperature (°C) (IEC 60335-2-40)..... :		NV
	Electric strength test as specified in 16.3, 72 h after the beginning of the test (IEC 60335-2-40)		NV
	At the end, leakage current between windings and enclosure does not exceed 2 mA (IEC 60335-2-40)		NV

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	If the motor-compressor has not been type-tested against the requirements of IEC 60335-2-34, a sample is provided with the rotor locked and being filled with oil and refrigerant as intended. (IEC 60335-2-40)		NV
	Sample is subjected to the tests specified in 19.101, 19.102, 19.103 and 19.105 of IEC 60335-2-34:2012, if applicable, and complies with the requirements in 19.104 of IEC 60335-2-34:2012. (IEC 60335-2-40)		NV
19.8	Three phase motors other than motor compressors are operated under the conditions of Clause 11 at rated voltage or at the upper limit of the rated voltage range with one phase disconnected, until steady conditions are obtained or the protective device operates. (IEC 60335-2-40)	No 3~ motors other than compressor	N/A
19.10	Series motor operated at 1,3 times rated voltage for 1 min (V).....:	Series motors not used	N/A
	During the test, parts not being ejected from the appliance	Series motors not used	N/A
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	they comply with the conditions specified in 19.11.1	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	restarting does not result in a hazard		P
	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	During and after each test the following is checked:		—
	- the temperature of the windings do not exceed the values specified in table 8	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	- the appliance complies with the conditions specified in 19.13	Testing of electronic circuits with certification is excluded from evaluation scope	NV

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided both of the following conditions are met:		—
	- the base material of the printed circuit board withstands the test of annex E	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	- any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions:		—
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction of other parts of the appliance does not rely on the correct functioning of the electronic circuit	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.2	Fault conditions applied one at a time, the appliance operating under conditions specified in clause 11, but supplied at rated voltage, duration of the tests as specified:		—
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	b) open circuit at the terminals of any component	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	c) short circuit of capacitors, unless	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	they comply with IEC 60384-14	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	d) short circuit of any two terminals of an electronic component, other than integrated circuits	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	This fault condition is not applied between the two circuits of an optocoupler	Testing of electronic circuits with certification is excluded from evaluation scope	NV

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	e) failure of triacs in the diode mode	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	f) failure of microprocessors and integrated circuits	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	g) failure of an electronic power switching device	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.3	If the appliance incorporates a protective electronic circuit which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to g) of 19.11.2	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.4	The first paragraph of Part 1 in not applicable for stand-by mode if unintentional operation does not cause any hazards. (IEC 60335-2-40)		P
	Appliances having a device with an off position obtained by electronic disconnection, or	No device with off position	N/A
	a device that can be placed in the stand-by mode,	Unintentional operation does not cause any hazards	N/A
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode.	Unintentional operation does not cause any hazards	N/A
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to 19.11.4.7. (IEC 60335-2-40)	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	Tests are carried out after the protective electronic circuit has operated during the relevant tests of Clause 19 except 19.2, 19.6, 19.11.3, 19.102 and 19.103. (IEC 60335-2-40)	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	If the appliance incorporates more than one protective electronic circuit, each protective electronic circuit has to be tested individually with the appliance operated under normal operation at any temperature within the working range. (IEC 60335-2-40)	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	Components protected by a protective electronic, if engineering judgement gives evidence that the test in the final application will not lead to a hazardous condition. (IEC 60335-2-40)	Testing of electronic circuits with certification is excluded from evaluation scope	NV

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Surge protective devices disconnected, unless	No surge protective devices	N/A
	they incorporate spark gaps	No surge protective devices	N/A
	For these tests, it may be necessary to provide specially prepared component samples, e.g. compressors with locked rotor. (IEC 60335-2-40)	Specially prepared samples not required	N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	Earthed heating elements in class I appliances disconnected	No earthed heating elements	N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the class 3 voltage dips and interruptions in accordance with IEC 61000-4-11	Testing of electronic circuits with certification is excluded from evaluation scope	NV
	Appliances having a rated current exceeding 16 A are subjected to the class 3 voltage dips and interruptions in accordance with IEC 61000-4-34	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2	Testing of electronic circuits with certification is excluded from evaluation scope	NV
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation at any temperature within the working range. After 60 s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate. (IEC 60335-2-40)		P
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A).....:	No fuse link	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9.....:	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		P
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		—
	- basic insulation (V).....:	1000	P
	- supplementary insulation (V).....:	1750	N/A
	- reinforced insulation (V) .....:	3000	P
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage		P
	The appliance does not undergo a dangerous malfunction, and		P
	no failure of protective electronic circuits, if the appliance is still operable		P
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		—
	- do not become operational, or		P
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		N/A
	If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that:		—
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
	- the appliance does not start after the cycle in which the interlock was released		N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited		P
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		P
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		P
	Locking in the "on" position of the main contacts of a contact intended for switching on and off the heating element(s) in normal use is considered to be a fault condition, unless the appliance is provided with at least two sets of contacts connected in series. (IEC 60335-2-40)		P
	This condition is, for example, achieved by providing two contactors operating independently of each other or by providing one contactor having two independent armatures operating two independent sets of main contacts. (IEC 60335-2-40)		N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied		N/A
19.101	Test of appliance with heat transfer medium flow of the outdoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)		P
	Test of appliance with heat transfer flow of the indoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)		P
	Disconnection of motor common to both the outdoor and the indoor heat exchangers when reaching steady conditions (IEC 60335-2-40)		N/A
19.102	Test of appliances using water as heat transfer medium (IEC 60335-2-40)	No water	N/A
19.103	Test of air to air appliances at rated voltage or at the upper limit of the rated voltage range. Dry-bulb temperature is 5 K below values specified by manufacturer (IEC 60335-2-40)	No hazard associated with under-temperature condition.	N/A
	Test with the dry-bulb temperature 10 K over the values specified by manufacturer (IEC 60335-2-40)	60 Hz only - Representative testing conducted under report 4786940983 50 Hz only – Evaluated by test	P
19.104	All appliances provided with supplementary heaters and free air discharge subjected to specified test in each mode of operation (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	During test temperature not exceed 150 °C but an overshoot of 25 °C is permitted during first hour (IEC 60335-2-40)		P
	Thermal protective devices are allowed to operate. (IEC 60335-2-40)		P
20	STABILITY AND MECHANICAL HAZARDS		P
20.1	Appliances having adequate stability	Appliance is fixed	P
	Tilting test through an angle of 10°, appliance placed on an inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn	Appliance is fixed	N/A
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°	Appliance is fixed	N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9	Appliance is fixed	N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		P
	Protective enclosures, guards and similar parts are non-detachable, and		P
	have adequate mechanical strength		P
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts	No interlocks	N/A
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure		P
	Not possible to touch dangerous moving parts with the test probe described		P
21	MECHANICAL STRENGTH		P
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	Representative testing conducted under report 4786940990	P
	The appliance shows no damage impairing compliance with this standard, and		P
	compliance with 8.1, 15.1 and clause 29 not impaired		P
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3	No doubt	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	If necessary, repetition of groups of three blows on a new sample	Repetition not necessary	N/A
	Safety requirements specified in annex EE apply. Pressure test in annex EE applies to parts other than pressure vessels (IEC 60335-2-40)	Components comply with Annex EE per certifications	P
	Safety requirements of ISO 14903 apply (IEC 60335-2-40)		P
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements	No accessible parts of solid insulation	N/A
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm	No accessible parts of solid insulation	N/A
	The insulation is tested as specified, and does withstand the electric strength test of 16.3	No accessible parts of solid insulation	N/A
	Appliances using flammable refrigerants withstand the effects of vibration during transport. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Appliance is tested in its final packaging for transport and shall withstand a random vibration test according to ASTM D4728-01. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Compliance is checked as specified (IEC 60335-2-40)	No flammable refrigerant used	N/A
22	CONSTRUCTION		P
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	No first numeral IP rating applied	N/A
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		P
	- a supply cord fitted with a plug, or	No cord/plug	N/A
	- a switch complying with 24.3, or	Statement in instruction used	N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		P
	- an appliance inlet	No appliance inlet	N/A
	Singe-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 01 and class I appliances, connected to the phase conductor		P
22.3	Appliance provided with pins: no undue strain on socket-outlets	Pins not provided	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Applied torque not exceeding 0,25 Nm	Pins not provided	N/A
	Pull force of 50 N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1 mm	Pins not provided	N/A
	Each pin subjected to a torque of 0,4 Nm; the pins are not rotating, unless	Pins not provided	N/A
	rotating does not impair compliance with this standard	Pins not provided	N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets	No pins for insertion	P
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance exceeding 0,1 μF, the appliance being disconnected from the supply at the instant of voltage peak	No plug, permanently connected units	N/A
	Voltage not exceeding 34 V (V) .....:	No plug, permanently connected units	N/A
22.6	Electrical insulation not affected by condensing water or leaking liquid	Orientation/position of condensate pan precludes any wetting of live parts due to blocked condensate drain	P
	Electrical insulation of class II appliances not affected if a hose ruptures or seal leaks	Not class II appliance	N/A
	In case of doubt, test as described	Orientation/position of condensate pan precludes any wetting of live parts due to blocked condensate drain	N/A
	Electrical insulation not affected by snow penetration to appliance enclosure (IEC 60335-2-40)	Outdoor unit evaluated under project 4787569756. Indoor unit not affected by snow.	P
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices	Per pressure rating of components in Annex EE	P
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use		P
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless		P
	the substance has adequate insulating properties		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:	No voltage maintained non-self-resetting thermal cut-out	N/A
	- a non-self-resetting thermal cut-out is required by the standard, and	No voltage maintained non-self-resetting thermal cut-out	N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it	No voltage maintained non-self-resetting thermal cut-out	N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless	Not present	N/A
	they are voltage maintained	Not present	N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		P
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		P
	Obvious locked position of snap-in devices used for fixing such parts	No snap-in devices	N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing	No snap-in devices	N/A
	Tests as described	Representative testing conducted under report 4786940990	P
22.12	Handles, knobs etc. fixed in a reliable manner	No handles, knobs, or similar parts	N/A
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible	No handles, knobs, or similar parts	N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied	No handles, knobs, or similar parts	N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied	No handles, knobs, or similar parts	N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operator’s hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only	No handles, knobs, or similar parts	N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		P
	No exposed pointed ends of self-tapping screws or other fasteners, likely to be touched by the user in normal use or during user maintenance		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.15	Storage hooks and the like for flexible cords smooth and well rounded	No cords	N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts	No cords	N/A
	Cord reel tested with 6000 operations, as specified	No cords	N/A
	Electric strength test of 16.3, voltage of 1000 V applied	No cords	N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		P
22.18	Current-carrying parts and other metal parts resistant to corrosion	Painted steel	P
22.19	Driving belts not relied upon to provide the required level of insulation, unless	No driving belts	N/A
	constructed to prevent inappropriate replacement	No driving belts	N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		P
	material used is non-corrosive, non-hygroscopic and non-combustible	No contact between live parts and thermal insulation	N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	Noted materials not used	N/A
	Impregnated	Noted materials not used	N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		P
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements adequately supported to prevent contact with accessible metal parts nor give rise to a hazard in case of rupture or sagging (IEC 60335-2-40)		P
	Bare heating elements not used with wood or wood composite enclosures. (IEC 60335-2-40)		P
22.25	Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.26	For class III constructions the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation		P
22.27	Parts connected by protective impedance separated by double or reinforced insulation	No protective impedance	N/A
22.28	Metal parts of class II appliances conductively connected to gas pipes or in contact with water, separated from live parts by double or reinforced insulation	Class I appliance	N/A
22.29	Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation	Class I appliance	N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or	Only part functioning as reinforced insulation is SELV transformer, which is fixed to control compartment with screws	P
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		P
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		P
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		P
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29		P
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2	Rubber not used as insulation	N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		P
	Insulating material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation	No embedded heating conductors	N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature	Rubber not used for insulation	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts	No conductive liquids in construction	N/A
	Electrodes not used for heating liquids	No liquid heating function	N/A
	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, unless	No conductive liquids in class II construction. SELV (NFPA 70 Class 2) transformer located within control compartment and is not subject to condensation.	N/A
	the reinforced insulation consists of at least 3 layers	No conductive liquids in class II construction. SELV (NFPA 70 Class 2) transformer located within control compartment and is not subject to condensation.	N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless	No conductive liquids in class II construction. SELV (NFPA 70 Class 2) transformer located within control compartment and is not subject to condensation.	N/A
	the reinforced insulation consists of at least 3 layers	No conductive liquids in class II construction. SELV (NFPA 70 Class 2) transformer located within control compartment and is not subject to condensation.	N/A
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid	No double insulation system.	N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless	No operating knobs, levers, handles, or similar	N/A
	the shaft is not accessible when the part is removed	No operating knobs, levers, handles, or similar	N/A
22.35	For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation	No operating knobs, levers, handles, or similar	N/A
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulation	No operating knobs, levers, handles, or similar	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	This requirement does not apply to handles, levers and knobs on stationary appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal	No operating knobs, levers, handles, or similar	N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation	No operating knobs, levers, handles, or similar	N/A
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless	No handles continuously held in hand in normal use	N/A
	they are separated from live parts by double or reinforced insulation	No handles continuously held in hand in normal use	N/A
22.37	Capacitors in class II appliances not connected to accessible metal parts and their casings, if of metal, separated from accessible metal parts by supplementary insulation, unless	Class I appliance	N/A
	the capacitors comply with 22.42	Class I appliance	N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out		P
22.39	Lamp holders used only for the connection of lamps	No lamp holders	N/A
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible	Fixed appliance	N/A
	If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible	Fixed appliance	N/A
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two separate components	No protective impedance	N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited	No protective impedance	N/A
	Resistors checked by the test of 14.1 a) in IEC 60065	No protective impedance	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14	No protective impedance	N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur	No voltage adjustment means	N/A
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		P
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure		P
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1	No programmable protective controls	N/A
	If the protective electronic circuit software is a part of the normal operation control, inspection of software shall be limited to relevant source code of safety controls or related software controls. (IEC 60335-2-40)	No programmable protective controls	N/A
	Alternative methods are used (IEC 60335-2-40)	No programmable protective controls	N/A
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards	No programmable protective controls	N/A
	These requirements are not applicable to software used for functional purpose or compliance with clause 11	No programmable protective controls	N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use	No water mains connection	N/A
	No leakage from any part, including any inlet water hose	No water mains connection	N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water	No water mains connection	N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless	Appliance operates continuously without hazard	N/A
	the appliance switches off automatically or can operate continuously without hazard	Appliance operates continuously without hazard	P
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode	Appliance operates continuously without hazard	N/A
	There is a visual indication showing that the appliance is adjusted for remote operation	Appliance operates continuously without hazard	N/A
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		
	- continuously, or		P
	- automatically, or	Appliance operates continuously without hazard	N/A
	- remotely	Appliance switches off automatically	N/A
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold	No socket-outlets	N/A
22.101	Appliances intended to be fixed, securely fixed (IEC 60335-2-40)		P
22.102.1	At least two thermal cut-outs in appliances with supplementary heating elements for air (first one be self-resetting and other non-self-resetting thermal cut-out) (IEC 60335-2-40)		P
22.102.2	Appliances provided with supplementary heaters for water incorporate non-self-resetting thermal cut-out, providing all-pole disconnection that operates separately from water thermostats (IEC 60335-2-40)	No supplementary heaters for water	N/A
	However, for appliances intended to be connected to fixed wiring, the neutral conductor need not be disconnected (IEC 60335-2-40)	No supplementary heaters for water	N/A
22.102.3	Thermal cut-outs of capillary type open in event of leakage from capillary tube (IEC 60335-2-40)	No capillary type thermal cut-out	N/A
22.103	Non-self-resetting cut-outs independent of other control devices (IEC 60335-2-40)		P
22.104	Containers of sanitary hot water heat pumps withstand twice permissible operating pressure in closed containers (IEC 60335-2-40) or	Not a sanitary hot water heat pump	N/A
	0,15 MPa in open containers (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
	without leakage or rupture (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
22.105	Air or vapour cushion in closed containers not exceeding 10 % (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.106	Pressure relief devices operating at 0,1 MPa over permissible operating pressure (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
22.107	Water outlet systems of open containers free from obstruction causing over-pressure (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
	Vented containers of sanitary hot water heat pumps always open to the atmosphere through appropriate aperture (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
22.108	Not vented open containers subjected to test in accordance with clause 22.104 to vacuum of 33 kPa for 15 min (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
	Container show no deformation which result in a hazard (IEC 60335-2-40)	Not a sanitary hot water heat pump	N/A
22.109	Replacement of non-self-resetting thermal cut-outs does not damage other connections (IEC 60335-2-40)		P
22.110	Non-self-resetting thermal cut-outs operate without short-circuiting live parts of different potential and without causing contact between live parts and enclosure (IEC 60335-2-40)		P
	Test repeated five times without blowing 3 A fuse which connects appliance to earth (IEC 60335-2-40)		P
	Electric strength test as specified in clause 16.3 for supplementary heating elements (IEC 60335-2-40)		P
22.111	Manual resetting of thermostats not necessary after power supply interruption (IEC 60335-2-40)		P
22.112	Construction of refrigerating system comply with requirements of Section 3 of ISO 5149 (IEC 60335-2-40)		P
22.113	Flammable refrigerant used, refrigerant tubing protected or enclosed to avoid mechanical damage (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Tubing protected to extent that it will not be handled or used for carrying during moving of product (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Tubing located within confines of cabinet considered to be protected from mechanical damage (IEC 60335-2-40)	No flammable refrigerant used	N/A
22.114	Flammable refrigerant used, low temperature solder alloys, such as lead/tin alloys, not acceptable for pipe connections or any other refrigerant pressure containing purposes. (IEC 60335-2-40)	No flammable refrigerant used	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.115	Total refrigerant mass (M) of all refrigerating systems within appliance employing flammable refrigerants, not exceed m_3 defined in annex GG (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A
22.116	Appliances using flammable refrigerants constructed that any leaked refrigerant not flow or stagnate so as to cause fire or explosion hazard in areas within appliance where electrical components, which could be a source of ignition and which could function under normal conditions or in event of leak, fitted (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A
	Separate components, such as thermostats, which charged with less than 0,5 g of flammable gas not considered to cause fire or explosion hazard in event of leakage of gas within component itself (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A
	All electrical components that could be a source of ignition and which could function under normal conditions or in the event of a leak, shall be located in an enclosure which satisfies the following: (IEC 60335-2-40):		N/A
	- comply with Clause 20 of IEC 60079-15:2010 for restricted breathing enclosures suitable for use with group IIA gases or the refrigerant used. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	- not be located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of Annex FF. Electrical components not located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of Annex FF are not considered an ignition source. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Components and apparatus complying with Clause 8 to 19 of IEC 60079-15:2010, for group IIA gases or the refrigerant used or an applicable standard that makes electrical components suitable for use in Zone 2, 1 or 0 as defined IEC 60079-14 are not considered as a source of ignition. (IEC 60335-2-40)	No flammable refrigerant used	N/A
22.117	Temperatures on surfaces that exposed to leakage of flammable refrigerants not exceed auto-ignition temperature of refrigerant reduced by 100 K; some typical values given in annex BB (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A
22.118	Flammable refrigerant used, all appliances charged with refrigerant at manufacturing location or charged on site as recommended by manufacturer (IEC 60335-2-40/A1)	No flammable refrigerant used	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Part of appliance that charged on site, which requires brazing or welding in installation not shipped with flammable refrigerant charge. Joints made in installation between parts of refrigerating system, with at least one part charged, made in accordance with following (IEC 60335-2-40/A1):		N/A
	- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. A vacuum valve shall be provided to evacuate the interconnecting pipe and/or any uncharged refrigerating system part (IEC 60335-2-40)	No flammable refrigerant used	N/A
	- Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated. (IEC 60335-2-40)	No flammable refrigerant used	N/A
	- Refrigerant tubing shall be protected or enclosed to avoid damage (IEC 60335-2-40)	No flammable refrigerant used	N/A
	Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operations shall be protected against mechanical damage (IEC 60335-2-40)	No flammable refrigerant used	N/A
23	INTERNAL WIRING		P
23.1	Wireways smooth and free from sharp edges		P
	Wires protected against contact with burrs, cooling fins etc.		P
	Wire holes in metal well-rounded or provided with bushings		P
	Wiring effectively prevented from coming into contact with moving parts		P
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges	Beads, or similar spacers, are not used	N/A
	Beads inside flexible metal conduits contained within an insulating sleeve	Beads, or similar spacers, are not used	N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress		P
	Flexible metallic tubes not causing damage to insulation of conductors	No flexible metal tubing used	N/A
	Open-coil springs not used		P
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another	No springs	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	No damage after 10 000 flexings for conductors flexed during normal use, or	No conductors flexed in normal use	N/A
	100 flexings for conductors flexed during user maintenance	No conductors flexed during maintenance	N/A
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts	No conductors flexed during normal use or maintenance	N/A
	Not more than 10 % of the strands of any conductor broken, and	No conductors flexed during normal use or maintenance	N/A
	not more than 30 % for wiring supplying circuits that consume no more than 15 W	No conductors flexed during normal use or maintenance	N/A
23.4	Bare internal wiring sufficiently rigid and fixed		P
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use	Per wiring certification	P
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or	Certification of wiring is considered equivalent	P
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation	Certification of wiring is considered equivalent	P
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or	No sleeving used as supplementary insulation	N/A
	be such that it can only be removed by breaking or cutting	No sleeving used as supplementary insulation	N/A
23.7	The colour combination green/yellow only used for earthing conductors		P
23.8	Aluminium wires not used for internal wiring		P
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless		P
	the contact pressure is provided by spring terminals	Soldering not used to consolidate conductors	N/A
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)	No water mains connection	N/A
24	COMPONENTS		P
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components .....:	(see appended table)	P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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	Component certifications to comply with cycling requirements	N/A
	For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance		P
	Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard	No lampholders / starterholders	N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC 60309	No plugs/couplers used	N/A
	Motor-compressors not tested according to IEC 60335-2-34 (not necessary to meet all requirements of IEC 60335-2-34) (IEC 60335-2-40)	Compressors certified to IEC 60335-2-34	N/A
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14	No capacitors used for radio interference suppression or voltage dividing	N/A
	If the capacitors have to be tested, they are tested according to annex F	No capacitors used for radio interference suppression or voltage dividing	N/A
24.1.2	Safety isolating transformers complying with IEC 61558-2-6	Transformer tested in end-use	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	Component certification considered equivalent	P
	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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	If the switch only operates a motor staring relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		N/A
24.1.4	Automatic controls complying with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		P
	- thermostats:..... 10 000	Shorted during clause 11	N/A
	- temperature limiters: 1 000	Not used	N/A
	- self-resetting thermal cut-outs: 300	Per component certification	P
	- voltage maintained non-self-resetting thermal cut-outs: 1 000	Not used	N/A
	- other non-self-resetting thermal cut-outs: 30	Per component certification	P
	- timers: 3 000	Not used	N/A
	- energy regulators: 10 000	Not used	N/A
	- thermostats which control motor-compressor (IEC 60335-2-40):..... 100 000	Not used	N/A
	- motor-compressor starting relays (IEC 60335-2-40):..... 100 000	Per component certification	P
	- automatic thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (not less than number of operations during locked rotor test) (IEC 60335-2-40):.....min 2000	Per component certification	P
	- manual reset thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC/EN 60335-2-40): 50	Not used	N/A
	- other automatic thermal motor-protectors (IEC 60335-2-40):..... 2000	Per component certification	P
	- other manual reset thermal motor-protectors (IEC 60335-2-40):..... 30	Not used	N/A
	The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited		P
	Thermal motor protectors are tested in combination with their motor under the conditions specified in annex D	Per component certification	P
	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	No water mains connection	N/A
24.1.5	Appliance couplers complying with IEC 60320-1	Appliance Couplers not used	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	However, for appliances classified higher than IPX0, the appliance couplers complying with IEC 60320-2-3	Appliance Couplers not used	N/A
	Interconnection couplers complying with IEC 60320-2-2	Appliance Couplers not used	N/A
24.1.6	Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable	No lamp holders	N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151	No remote operation via telecommunication network	N/A
24.1.8	The relevant standard for thermal links is IEC 60691	Not used	N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of clause 19	Not used	N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance	End product testing considered equivalent to certification of component	N/A
	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.....:	End product testing considered equivalent to certification of component	P
24.2	Appliances not fitted with:		P
	- switches or automatic controls 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	Thermal cut-out non resettable	P
	the solder has a melding point of at least 230 °C	Thermal cut-out non resettable	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		P
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1	No plugs/socket-outlets used	N/A

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm) .....:	16.0 mm max conduit size. IDU only and ODU rated less than 16A: 16 mm (1/2 in.) max trade conduit to be specified with associated max knockout size of 22.2 mm (7/8 in.)	P
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29		P
25.5	Method for assembling the supply cord to the appliance:		N/A
	- type X attachment	Appliance intended for permanent connection	N/A
	- type Y attachment	Appliance intended for permanent connection	N/A
	- type Z attachment, if allowed in relevant part 2	Appliance intended for permanent connection	N/A
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords	Appliance intended for permanent connection	N/A
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment	Appliance intended for permanent connection	N/A
25.6	Plugs fitted with only one flexible cord	Appliance intended for permanent connection	N/A
25.7	Supply cords, other than for class III appliances, being one of the following types:		N/A
	- rubber sheathed (at least 60245 IEC 53)	No supply cord	N/A
	- polychloroprene sheathed (at least 60245 IEC 57)	No supply cord	N/A
	- cross-linked polyvinyl chloride sheathed (at least 60245 IEC 88)	No supply cord	N/A
	- polyvinyl chloride sheathed. Not used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of clause 11		N/A
	- light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg	No supply cord	N/A
	- ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances	No supply cord	N/A
	- heat resistant polyvinyl chloride sheathed. Not used for type X attachment other than specially prepared cords		N/A
	- heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg	No supply cord	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances	No supply cord	N/A
	Supply cords for class III appliances adequately insulated	No supply cord	N/A
	Test with 500 V for 2 min for supply cords of class III appliances that contain live parts	No supply cord	N/A
	Supply cords for outdoor use not lighter than polychloroprene sheathed flexible cord (60245 IEC 57) (IEC 60335-2-40)	No supply cord	N/A
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm²).....:	No supply cord	N/A
25.9	Supply cords not in contact with sharp points or edges	No supply cord	N/A
25.10	Supply cord of class I appliances have a green/yellow core for earthing	No supply cord	N/A
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless	No supply cord	N/A
	the contact pressure is provided by spring terminals	No supply cord	N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure	No supply cord	N/A
25.13	Inlet openings so constructed as to prevent damage to the supply cord	No supply cord	N/A
	If the enclosure at the inlet opening is not of insulating material, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided	No supply cord	N/A
	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is	No supply cord	N/A
	class 0, or	No supply cord	N/A
	a class III appliance not containing live parts	No supply cord	N/A
25.14	Supply cords moved while in operation adequately protected against excessive flexing	No supply cord	N/A
	Flexing test, as described:		N/A
	- applied force (N).....:	No supply cord	N/A
	- number of flexings.....:	No supply cord	N/A
	The test does not result in:		N/A
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current	No supply cord	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- breakage of more than 10 % of the strands of any conductor	No supply cord	N/A
	- separation of the conductor from its terminal	No supply cord	N/A
	- loosening of any cord guard	No supply cord	N/A
	- damage to the cord or the cord guard	No supply cord	N/A
	- broken strands piercing the insulation and becoming accessible	No supply cord	N/A
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage	No supply cord	N/A
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged	No supply cord	N/A
	Pull and torque test of supply cord, values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm).....:	No supply cord	N/A
	Cord not damaged and max. 2 mm displacement of the cord	No supply cord	N/A
25.16	Cord anchorages for type X attachments constructed and located so that:		N/A
	- replacement of the cord is easily possible	No supply cord	N/A
	- it is clear how the relief from strain and the prevention of twisting are obtained	No supply cord	N/A
	- they are suitable for different types of supply cord	No supply cord	N/A
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless	No supply cord	N/A
	they are separated from accessible metal parts by supplementary insulation	No supply cord	N/A
	- the cord is not clamped by a metal screw which bears directly on the cord	No supply cord	N/A
	- at least one part of the cord anchorage securely fixed to the appliance, unless	No supply cord	N/A
	it is part of a specially prepared cord	No supply cord	N/A
	- screws which have to be operated when replacing the cord do not fix any other component, unless	No supply cord	N/A
	the appliance becomes inoperative or incomplete or the parts cannot be removed without a tool	No supply cord	N/A
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood	No supply cord	N/A

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

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

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Clause	Requirement + Test	Result - Remark	Verdict
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors	No cords used	N/A
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless	No cords used	N/A
	barriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint	No cords used	N/A
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor	Conduit connected, not type X or for connection of cables of fixed wiring	N/A
	Terminals fixed so that when the clamping means is tightened or loosened:		N/A
	- the terminal does not become loose	Conduit connected, not type X or for connection of cables of fixed wiring	N/A
	- internal wiring is not subjected to stress	Conduit connected, not type X or for connection of cables of fixed wiring	N/A
	- neither clearances nor creepage distances are reduced below the values in clause 29	Conduit connected, not type X or for connection of cables of fixed wiring	N/A
	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm).....:	Conduit connected, not type X or for connection of cables of fixed wiring	N/A
	No deep or sharp indentations of the conductors		N/A
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and	No cords used	N/A
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened	No cords used	N/A
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard	No cords used	N/A
	Stranded conductor test, 8 mm insulation removed	No cords used	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	No contact between live parts and accessible metal parts and,	No cords used	N/A
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only	No cords used	N/A
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm²).....:	Conduit connected, not type X or for connection of cables of fixed wiring	N/A
	If a specially prepared cord is used, terminals need only be suitable for that cord	Conduit connected, not type X or for connection of cables of fixed wiring	N/A
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure	No cords used	N/A
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other		P
26.9	Terminals of the pillar type constructed and located as specified		P
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless	Tinsel cords not used	N/A
	conductors ends fitted with means suitable for screw terminals	Tinsel cords not used	N/A
	Pull test of 5 N to the connection	Tinsel cords not used	N/A
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used	Permanently connected construction	N/A
	For class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone	Permanently connected construction	N/A
	If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free	Permanently connected construction	N/A
27	PROVISION FOR EARTHING		P
27.1	Accessible metal parts of class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet		P
	Earthing terminals and earthing contacts not connected to the neutral terminal		P

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

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Clause	Requirement + Test	Result - Remark	Verdict
	Resistance not exceeding 0,1 □ at the specified low-resistance test (□) .....:	Representative testing conducted under report 4786940990	P
	If the ground continuity between system components meets the minimum values specified in 27.5, it is considered to meet the requirements without dedicated grounding conductors. (IEC 60335-2-40)		P
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.	Not handheld appliance	N/A
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit	Printed conductors on PCBs not relied upon for grounding	N/A
28	SCREWS AND CONNECTIONS		P
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		P
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm	No screws of insulating material	N/A
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity	No screws of insulating material	N/A
	Screws used for electrical connections or connections providing earthing continuity screwed into metal		P
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation		P
	For type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw impairs basic insulation	Not type X attachment	N/A
	For screws and nuts; torque-test as specified in table 14.....:		P
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless		P

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

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Clause	Requirement + Test	Result - Remark	Verdict
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion	Rivets not used	N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		P
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), annex J applies .....:	Per component certification	P
	The microenvironment is pollution degree 1 under type 1 protection	Per component certification	P
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3	Per component certification	P
	These values apply to functional, basic, supplementary and reinforced insulation .....:	Per component certification	P
	For motor-compressor not complying with IEC 60335-2-34, additions and modifications as specified (IEC 60335-2-40)	Compressors certified to IEC 60335-2-34	N/A
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless .....:	(see appended table)	P
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14	Clearances sufficient without test	N/A
	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500 V and above are increased by 0,5 mm and the impulse voltage test is not applicable	No parts subject to wear, distortion, or movement that could reduce clearances	N/A
	Impulse voltage test is not applicable:		P
	- when the microenvironment is pollution degree 3, or	Clearances sufficient	N/A
	- for basic insulation of class 0 and class 01 appliances	Class I appliance	N/A
	Appliances are in overvoltage category II		P
	A force of 2 N is applied to bare conductors, other than heating elements	No bare conductors other than heating elements	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	A force of 30 N is applied to accessible surfaces	No movement of steel enclosure on application of 30 N force that reduces clearances	N/A
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		P
	The values of table 16 or the impulse voltage test of clause 14 are applicable.....:	(see appended table)	P
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1	No tubular sheathed heating elements	N/A
	Lacquered conductors of windings considered to be bare conductors		P
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16 .....:	(see appended table)	P
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage .....:	(see appended table)	P
	For double insulation, with no intermediate conductive part between basic and supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation	No double insulation	N/A
29.1.4	Clearances for functional insulation are the largest values determined from:		P
	- table 16 based on the rated impulse voltage .....:	(see appended table)	P
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		P
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz	No frequency exceeding 30 kHz	N/A
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless	Clearances sufficient, impulse voltage test not required	N/A
	the microenvironment is pollution degree 3, or	Clearances sufficient, impulse voltage test not required	N/A
	the distances can be affected by wear, distortion, movement of the parts or during assembly	Clearances sufficient, impulse voltage test not required	N/A
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		P
	Lacquered conductors of windings considered to be bare conductors		P

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Clause	Requirement + Test	Result - Remark	Verdict
	However, clearances at crossover points are not measured		P
	Clearance between surfaces of PTC heating elements may be reduced to 1mm	No PTC heating elements	N/A
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from:		P
	- table 16 based on the rated impulse voltage .....:	Working voltage same as rated voltage	N/A
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz	Working voltage same as rated voltage	N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz	Working voltage same as rated voltage	N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation	Working voltage same as rated voltage	N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation	Working voltage same as rated voltage	N/A
	If clearances for basic insulation are selected from clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation	Working voltage same as rated voltage	N/A
	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage	Working voltage same as rated voltage	N/A
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15	Working voltage same as rated voltage	N/A
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree.....:	(see appended table)	P
	Pollution degree 2 applies, unless		P
	- precautions taken to protect the insulation; pollution degree 1	No precautions taken to reduce pollution degree	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- insulation subjected to conductive pollution; pollution degree 3	No uninsulated live parts within condensing section and evaporator compartments	N/A
	A force of 2 N is applied to bare conductors, other than heating elements	No bare conductors other than heating elements	N/A
	A force of 30 N is applied to accessible surfaces	No movement of steel enclosure on application of 30 N force which could reduce clearances	N/A
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system	No double insulation	N/A
	Insulation located in airflow, pollution degree 3 unless (IEC 60335-2-40)	Only wiring to motors in airstream, no uninsulated live parts for clearance measurements	N/A
	insulation enclosed or located so that unlikely to be exposed to pollution due to normal use (IEC 60335-2-40)	Only wiring to motors in airstream, no uninsulated live parts for clearance measurements	P
29.2.1	Creepage distances of basic insulation not less than specified in table 17.....:	(see appended table)	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17 .....:	No frequency > 30 kHz	N/A
	Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14 .....:		P
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or .....:	(see appended table)	P
	Table 2 of IEC 60664-4, as applicable.....:	No frequency > 30 kHz	N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or .....:	(see appended table)	P
	Table 2 of IEC 60664-4, as applicable.....:		P
29.2.4	Creepage distances of functional insulation not less than specified in table 18.....:	(see appended table)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18 .....:	No freq > 30 kHz	N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited	Creepage distances compliant without reduction	N/A
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		P
	Compliance checked:		P
	- by measurement, in accordance with 29.3.1, or		P
	- by an electric strength test in accordance with 29.3.2, or	Compliance checked by measurement	N/A
	- by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and	Compliance checked by measurement	N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or	No accessible parts of reinforced insulation	N/A
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz	No accessible parts of reinforced insulation	N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm	No solid supplementary insulation	N/A
	Reinforced insulation have a thickness of at least 2 mm		P
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation	Insulation verified by thickness	N/A
	Supplementary insulation consist of at least 2 layers	Insulation verified by thickness	N/A
	Reinforced insulation consist of at least 3 layers	Insulation verified by thickness	N/A
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by	Insulation verified by thickness	N/A
	the electric strength test of 16.3	Insulation verified by thickness	N/A
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out	Insulation verified by thickness	N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19.....:	No accessible parts of reinforced insulation	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
30	RESISTANCE TO HEAT AND FIRE		P
30.1	External parts of non-metallic material,		P
	parts supporting live parts, and		P
	parts of thermoplastic material providing supplementary or reinforced insulation	No thermoplastic supplementary/reinforced insulation	N/A
	sufficiently resistant to heat		P
	Ball-pressure test according to IEC 60695-10-2		P
	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C).....:	No external non-metallic parts	N/A
	Parts supporting live parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C) .....:	125C	P
	Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C) .....:	No thermoplastic supplementary/reinforce insulation	N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire		P
	This requirement does not apply to:		P
	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or		P
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance	Transformer casing – considered unlikely to propagate flames.	P
	Compliance checked by the test of 30.2.1, and in addition:		P
	- for attended appliances, 30.2.2 applies	Unattended appliance	N/A
	- for unattended appliances, 30.2.3 applies		P
	For appliances for remote operation, 30.2.3 applies		P
	For base material of printed circuit boards, 30.2.4 applies		P
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550 °C		P

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Clause	Requirement + Test	Result - Remark	Verdict
	However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 °C, or		P
	the material is classified at least HB40 according to IEC 60695-11-10		P
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF		N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		P
	The tests are not applicable to conditions as specified .....:	Low power circuits, soldered connections	P
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and		P
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		P
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C		P
	Glow-wire applied to an interposed shielding material, if relevant	No interposed shielding material	N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 850 °C		N/A
30.2.3.2	Parts of non-metallic material supporting connections, and		P
	parts of non-metallic material within a distance of 3 mm,		P
	subjected to glow-wire test of IEC 60695-2-11		P
	The test severity is:		
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		P
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant	No interposed shielding material	N/A
	However, the glow-wire test of 750 °C or 650 °C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:		
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- 775 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 675 °C, for other connections		N/A
	- a glow-wire flammability index according to IEC 60695-2-12 of at least:		N/A
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		P
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- comply with the needle-flame test of annex E, or		N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10	Per component certifications	P
	The consequential needle-flame test of annex E applied to non-metallic parts that encroach within the vertical cylinder placed above the centre of the connection zone and on top of the non-metallic parts supporting current-carrying connections, and parts of non-metallic material within a distance of 3 mm of such connections if these parts are those:		N/A
	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or		N/A
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts for which the needle-flame test of annex E was applied, or		N/A
	- small parts for which a material classification of V-0 or V-1 was applied		N/A
	However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are:		N/A
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or		N/A
	- parts shielded by a flame barrier that meets the needle-flame test of annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of annex E		N/A
	Test not applicable to conditions as specified.....:	Metal enclosure confining flames	P
31	RESISTANCE TO RUSTING		
	Relevant ferrous parts adequately protected against rusting	Painted for corrosion resistance	P
	Tests specified in part 2 when necessary	Paint used for corrosion protection is certified using equivalent test program to IEC 60068-2-52.	N/A
	Salt mist test of IEC 60068-2-52, severity 2 (IEC 60335-2-40)	Paint used for corrosion protection is certified using equivalent test program to IEC 60068-2-52.	N/A
	Before test, coatings are scratched by means of a harden steel pin as specified (IEC 60335-2-40)	Paint used for corrosion protection is certified using equivalent test program to IEC 60068-2-52.	N/A
	Five scratches made at least 5 mm apart and at least 5 mm from the edges (IEC 60335-2-40)	Paint used for corrosion protection is certified using equivalent test program to IEC 60068-2-52.	N/A
	Appliance not deteriorated to such an extent that compliance with clause 8 and 27 is impaired (IEC 60335-2-40)	Paint used for corrosion protection is certified using equivalent test program to IEC 60068-2-52.	N/A
	Coating not be broken and not loosened from the metal surface (IEC 60335-2-40)	Paint used for corrosion protection is certified using equivalent test program to IEC 60068-2-52.	N/A
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		—
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		P
	Compliance is checked by the limits or tests specified in part 2, if relevant	No tests in part 2 standard	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		N/A
	Description of routine tests to be carried out by the manufacturer	Informative annex	N/A
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES		N/A
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance	Not battery operated	N/A
	This annex does not apply to battery chargers	Not battery operated	N/A
3.1.9	Appliance operated under the following conditions:		N/A
	- the appliance, supplied by its fully charged battery, operated as specified in relevant part 2	Not battery operated	N/A
	- the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate	Not battery operated	N/A
	- f possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2	Not battery operated	N/A
	- if the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed	Not battery operated	N/A
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable	Not battery operated	N/A
5.B.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances	Not battery operated	N/A
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals	Not battery operated	N/A
	The positive terminal indicated by symbol IEC 60417-5005 and the negative terminal by symbol IEC 60417-5006	Not battery operated	N/A
7.6	Symbols 60417-5005 and IEC 60417-5006	Not battery operated	N/A
7.12	The instructions give information regarding charging	Not battery operated	N/A
	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information	Not battery operated	N/A
	Details about how to remove batteries containing materials hazardous to the environment given	Not battery operated	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.15	Markings placed on the part of the appliance connected to the supply mains	Not battery operated	N/A
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment	Not battery operated	N/A
	If the appliance can be operated without batteries, double or reinforced insulation required	Not battery operated	N/A
11.7	The battery is charged for the period stated in the instructions or 24 h .....:	Not battery operated	N/A
19.1	Appliances subjected to tests of 19.B.101, 19.B.102 and 19.B.103	Not battery operated	N/A
19.10	Not applicable	Not battery operated	N/A
19.B.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged	Not battery operated	N/A
19.B.102	For appliances having batteries that can be removed without the aid of a tool, short-circuit of the terminals of the battery, the battery being fully charged,	Not battery operated	N/A
19.B.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction	Not battery operated	N/A
21.B.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength	Not battery operated	N/A
	Part of the appliance incorporating the pins subjected to the free fall test, procedure 2, of IEC 60068-2-31, the number of falls being:		
	- 100, if the mass of the part does not exceed 250 g (g) .....:	Not battery operated	N/A
	- 50, if the mass of the part exceeds 250 g .....:	Not battery operated	N/A
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met	Not battery operated	N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible	Not battery operated	N/A
25.13	An additional lining or bushing not required for interconnection cords in class III appliances or class III constructions operating at safety extra-low voltage not containing live parts	Not battery operated	N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies	Not battery operated	N/A
	For other parts, 30.2.2 applies	Not battery operated	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		N/A
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding	Per motor insulation class declaration and certification	N/A
	Test conditions as specified	Per motor insulation class declaration and certification	N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		N/A
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		N/A
7	Severities		N/A
	The duration of application of the test flame is 30 s ± 1 s	To be covered within component certification, if needed	N/A
9	Test procedure		N/A
9.1	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1	To be covered within component certification, if needed	N/A
9.2	The first paragraph does not apply	To be covered within component certification, if needed	N/A
	If possible, the flame is applied at least 10 mm from a corner	To be covered within component certification, if needed	N/A
9.3	The test is carried out on one specimen	To be covered within component certification, if needed	N/A
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test	To be covered within component certification, if needed	N/A
11	Evaluation of test results		N/A
	The duration of burning not exceeding 30 s	To be covered within component certification, if needed	N/A
	However, for printed circuit boards, the duration of burning not exceeding 15 s	To be covered within component certification, if needed	N/A
F	ANNEX F (NORMATIVE) CAPACITORS		N/A
	Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications:		N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict
4.13	Impulse voltage		N/A
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A
4.14	Endurance		N/A
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 are applicable	No capacitors used for radio interference suppression or voltage dividing	N/A
4.14.7	Only insulation resistance and voltage proof are checked	No capacitors used for radio interference suppression or voltage dividing	N/A
	No visible damage	No capacitors used for radio interference suppression or voltage dividing	N/A
4.17	Passive flammability test		N/A
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A
4.18	Active flammability test		N/A
	This subclause is applicable	No capacitors used for radio interference suppression or voltage dividing	N/A
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		P
	The following modifications to this standard are applicable for safety isolating transformers:		P
7	Marking and instructions		P
7.1	Transformers for specific use marked with:		P
	- name, trademark or identification mark of the manufacturer or responsible vendor .....:	Zettler	P
	- model or type reference .....:	AHR40310FMQ2	P
17	Overload protection of transformers and associated circuits		N/A
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1		N/A
22	Construction		P
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable		P
29	Clearances, creepage distances and solid insulation		P
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply		P

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

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Clause	Requirement + Test	Result - Remark	Verdict
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335 .....:	Testing not required per component certification	N/A
	Switches for operation under no load and which can be operated only by a tool, and	Testing not required per component certification	N/A
	switches operated by hand that are interlocked so that they cannot be operated under load,	Testing not required per component certification	N/A
	are not subjected to the tests	Testing not required per component certification	N/A
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation	Testing not required per component certification	N/A
	Subclauses 17.2.2 and 17.2.5.2 not applicable	Testing not required per component certification	N/A
	The ambient temperature during the test is that occurring in the appliance during the test of clause 11 in IEC 60335-1	Testing not required per component certification	N/A
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K).....:	Testing not required per component certification	N/A
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		N/A
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24	Testing not required per component certification	N/A
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		N/A
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		N/A
5.7	Conditioning of the test specimens		N/A
	When production samples are used, three samples of the printed circuit board are tested	Testing not required per component certification	N/A
5.7.1	Cold		N/A
	The test is carried out at -25 °C	Testing not required per component certification	N/A
5.7.3	Rapid change of temperature		N/A
	Severity 1 is specified	Testing not required per component certification	N/A
5.9	Additional tests		N/A
	This subclause is not applicable	Testing not required per component certification	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		N/A
	The information on overvoltage categories is extracted from IEC 60664-1		P
	Overvoltage category is a numeral defining a transient overvoltage condition		P
	Equipment of overvoltage category IV is for use at the origin of the installation	Equipment is overvoltage category II	N/A
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements	Equipment is overvoltage category II	N/A
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation		P
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies	Equipment is overvoltage category II	N/A
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level	Equipment is overvoltage category II	N/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		N/A
	Information for the determination of clearances and creepage distances	Informative annex	N/A
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		P
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		P
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment		P
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		P
	Minimum clearances specified where pollution may be present in the microenvironment		P
	Degrees of pollution in the microenvironment		P
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence		N/A
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected		P
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected	Only in evaporator section, which does not have any uninsulated live parts	P
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow	Pollution degree 2 applicable	N/A
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		N/A
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		N/A
7	Test apparatus		N/A
7.3	Test solutions		N/A
	Test solution A is used	Testing not required per component certification	N/A
10	Determination of proof tracking index (PTI)		N/A
10.1	Procedure		N/A
	The proof voltage is 100 V, 175 V, 400 V or 600 V .....:	Testing not required per component certification	N/A
	The test is carried out on five specimens	Testing not required per component certification	N/A
	In case of doubt, additional test with proof voltage reduced by 25 V, the number of drops increased to 100	Testing not required per component certification	N/A
10.2	Report		
	The report states if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V	Testing not required per component certification	N/A
O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF clause 30		N/A
	Description of tests for determination of resistance to heat and fire	Informative annex	N/A
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Modifications applicable for class 0 and 01 appliances having a rated voltage exceeding 150 V, intended to be used in countries having a warm damp equable climate and that are marked WDaE		N/A
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150 V, intended to be used in countries having a warm damp equable climate and that are marked WDaE, if liable to be connected to a supply mains that excludes the protective earthing conductor		N/A
5.7	The ambient temperature for the tests of clauses 11 and 13 is 40 +3/0 °C	Informative annex	N/A
7.1	The appliance marked with the letters WDaE	Informative annex	N/A
7.12	The instructions state that the appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA	Informative annex	N/A
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries	Informative annex	N/A
11.8	The values of Table 3 are reduced by 15 K	Informative annex	N/A
13.2	The leakage current for class I appliances not exceeding 0,5 mA	Informative annex	N/A
15.3	The value of t is 37 °C	Informative annex	N/A
16.2	The leakage current for class I appliances not exceeding 0,5 mA (mA):	Informative annex	N/A
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3	Informative annex	N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS		N/A
	Description of tests for appliances incorporating electronic circuits		N/A
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 validated in accordance with the requirements of this annex	No safety software	N/A
R.1	Programmable electronic circuits using software		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 constructed so that the software does not impair compliance with the requirements of this standard	No safety software	N/A
R.2	Requirements for the architecture		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 use measures to control and avoid software-related faults/errors in safety-related data and safety-related segments of the software	No safety software	N/A
R.2.1.1	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.2 have one of the following structures:		N/A
	- single channel with periodic self-test and monitoring	No safety software	N/A
	- dual channel (homogenous) with comparison	No safety software	N/A
	- dual channel (diverse) with comparison	No safety software	N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 have one of the following structures:		N/A
	- single channel with functional test	No safety software	N/A
	- single channel with periodic self-test	No safety software	N/A
	- dual channel without comparison	No safety software	N/A
R.2.2	Measures to control faults/errors		N/A
R.2.2.1	When redundant memory with comparison is provided on two areas of the same component, the data in one area is stored in a different format from that in the other area	No safety software	N/A
R.2.2.2	Programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.2 and that use dual channel structures with comparison, have additional fault/error detection means for any fault/errors not detected by the comparison	No safety software	N/A
R.2.2.3	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, means are provided for the recognition and control of errors in transmissions to external safety-related data paths	No safety software	N/A
R.2.2.4	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the programmable electronic circuits incorporate measures to address the fault/errors in safety-related segments and data indicated in table R.1 and R.2 as appropriate	No safety software	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
R.2.2.5	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, detection of a fault/error occur before compliance with clause 19 is impaired	No safety software	N/A
R.2.2.6	The software is referenced to relevant parts of the operating sequence and the associated hardware functions	No safety software	N/A
R.2.2.7	Labels used for memory locations are unique	No safety software	N/A
R.2.2.8	The software is protected from user alteration of safety-related segments and data	No safety software	N/A
R.2.2.9	Software and safety-related hardware under its control is initialized and terminates before compliance with clause 19 is impaired	No safety software	N/A
R.3	Measures to avoid errors		N/A
R.3.1	General		N/A
	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the following measures to avoid systematic fault in the software are applied		N/A
	Software that incorporates measures used to control the fault/error conditions specified in table R.2 is inherently acceptable for software required to control the fault/error conditions specified in table R.1	No safety software	N/A
R.3.2	Specification		N/A
R.3.2.1	Software safety requirements:	No safety software	N/A
	The specification of the software safety requirements includes the descriptions listed	No safety software	N/A
R.3.2.2	Software architecture		
R.3.2.2.1	The specification of the software architecture includes the aspects listed - techniques and measures to control software faults/errors (refer to R.2.2); - interactions between hardware and software; - partitioning into modules and their allocation to the specified safety functions; - hierarchy and call structure of the modules (control flow); - interrupt handling; - data flow and restrictions on data access; - architecture and storage of data; - time-based dependencies of sequences and data	No safety software	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis	No safety software	N/A
R.3.2.3	Module design and coding		N/A
R.3.2.3.1	Based on the architecture design, software is suitably refined into modules	No safety software	N/A
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements	No safety software	N/A
R.3.2.3.2	Software code is structured	No safety software	N/A
R.3.2.3.3	Coded software is validated against the module specification by static analysis	No safety software	N/A
	The module specification is validated against the architecture specification by static analysis	No safety software	N/A
R.3.3.3	Software validation		N/A
	The software is validated with reference to the requirements of the software safety requirements specification	No safety software	N/A
	Compliance is checked by simulation of:		N/A
	- input signals present during normal operation	No safety software	N/A
	- anticipated occurrences	No safety software	N/A
	- undesired conditions requiring system action	No safety software	N/A

TABLE R.1 [e] – GENERAL FAULT/ERROR CONDITIONS						
Component [a]	Fault/error	Acceptable measures [b, c]	Definitions	Document reference for applied measure	Document reference for applied test	Ver-dict
1 CPU 1.1 Registers	Stuck at	Functional test, or periodic self-test using either: - static memory test, or - word protection with single bit redundancy	H.2.16.5 H.2.16.6 H.2.19.6 H.2.19.8.2	-	-	N/A
1.2 VOID				-	-	N/A

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

1.3 Programme counter	Stuck at	Functional test, or Periodic self-test, or Independent time-slot monitoring, or Logical monitoring of the programme sequence	H.2.16.5 H.2.16.6 H.2.18.10.4 H.2.18.10.2	-	-	N/A
2 Interrupt handling and execution	No interrupt or too frequent interrupt	Functional test, or time-slot monitoring	H.2.16.5 H.2.18.10.4	-	-	N/A
3 Clock	Wrong frequency (for quartz synchronized clock: harmonics/ sub-harmonics only)	Frequency monitoring, or time slot monitoring	H.2.18.10.1 H.2.18.10.4	-	-	N/A
4. Memory 4.1 Invariable memory	All single bit faults	Periodic modified checksum, or multiple checksum, or word protection with single bit redundancy	H.2.19.3.1 H.2.19.3.2 H.2.19.8.2	-	-	N/A
4.2 Variable memory	DC fault	Periodic static memory test, or word protection with single bit redundancy	H.2.19.6 H.2.19.8.2	-	-	N/A
4.3 Addressing (relevant to variable and invariable memory)	Stuck at	Word protection with single bit redundancy including the address	H.2.19.8.2	-	-	N/A
5 Internal data path	Stuck at	Word protection with single bit redundancy	H.2.19.8.2	-	-	N/A
5.1 VOID				-	-	N/A
5.2 Addressing	Wrong address	Word protection with single bit redundancy including the address	H.2.19.8.2	-	-	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

6 External communication	Hamming distance 3	Word protection with multi-bit redundancy, or CRC – single work, or Transfer redundancy, or Protocol test	H.2.19.8.1 H.2.19.4.1 H.2.18.2.2 H.2.18.14	-	-	N/A
6.1 VOID				-	-	N/A
6.2 VOID				-	-	N/A
6.3 Timing	Wrong point in time	Time-slot monitoring, or scheduled transmission Time-slot and logical monitoring, or comparison of redundant communication channels by either: - reciprocal comparison - independent hardware comparator	H.2.18.10.4 H.2.18.18 H.2.18.10.3 H.2.18.15 H.2.18.3	-	-	N/A
	Wrong sequence	Logical monitoring, or time-slot monitoring, or Scheduled transmission	H.2.18.10.2 H.2.18.10.4 H.2.18.18			
7 Input/output periphery	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13	-	-	N/A
7.1 VOID				-	-	N/A
7.2 Analog I/O 7.2.1 A/D and D/A-converter	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13	-	-	N/A
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13	-	-	N/A
8 VOID				-	-	N/A
9 Custom chips [d] e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specification	Periodic self-test	H.2.16.6	-	-	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

NOTE A Stuck-at fault model denotes a fault model representing an open circuit or a non-varying signal level. A DC fault model denotes a stuck-at fault model incorporating short circuit between signal lines.
a) For fault/error assessment, some components are divided into their sub-functions. b) For each sub-function in the table, the Table R.2 measure will cover the software fault/error. c) Where more than one measure is given for a sub-function, these are alternatives. d) To be divided as necessary by the manufacturer into sub-functions. e) Table R.1 is applied according to the requirements of R.1 to R.2.2.9 inclusive.

AA	**ANNEX AA (INFORMATIVE) (IEC 60335-2-40)** **EXAMPLES FOR OPERATING TEMPERATURES OF THE APPLIANCE**	**N/A**

BB	**ANNEX BB (NORMATIVE) (IEC 60335-2-40)** **SELECTED INFORMATION ABOUT REFRIGERANTS**	P

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

DD	**ANNEX DD (NORMATIVE) (IEC 60335-2-40)** **INSTRUCTION MANUAL FOR SERVICING REFRIGERANT CONTAINING APPLIANCES**		N/A
DD.1	Symbols (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.2.	Information in manual (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.2.1	General (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.2.2	Unventilated areas (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.2.3	Qualification of workers (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3	Information on servicing (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD3.1	Checks to the area (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3.2	Work procedure (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3.3	General work area (IEC 60335-2-40)	No flammable refrigerant used	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
DD.3.4	Checking for presence of refrigerant (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3.5	Presence of fire extinguisher (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3.6	No ignition sources (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3.7	Ventilated area (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3.8	Checks to the refrigeration equipment (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.3.9	Checks to electrical devices (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.4	Repairs to sealed components (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.5	Repair to intrinsically safe components (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.6	Cabling (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.7	Detection of flammable refrigerants (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.8	Leak detection methods (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.9	Removal and evacuation (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.10	Charging procedures (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.11	Decommissioning (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.12	Labelling (IEC 60335-2-40)	No flammable refrigerant used	N/A
DD.13	Recovery (IEC 60335-2-40)	No flammable refrigerant used	N/A
EE	**ANNEX EE (NORMATIVE) (IEC 60335-2-40) PRESSURE TESTS**		P
EE.1	General (IEC 60335-2-40)	Certification of refrigerant containing components is considered to comply with Annex EE based on test pressure being higher than required by clauses EE.2, EE.3, or EE.4	P
EE.2	Pressure test value determined under testing carried out in clause 11 (IEC 60335-2-40)		N/A
EE.3	Pressure test value determined under testing carried out in clause 19 (IEC 60335-2-40)		N/A
EE.4	Pressure test value determined under testing carried out under standstill conditions (IEC 60335-2-40)		N/A
EE.5	Fatigue test option for Clauses EE.1 and EE.4.1 (IEC 60335-2-40)	Components are rated/certified for required pressure	N/A

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

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

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

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

10.1	TABLE: Power input deviation				N/A
Input deviation of/at:	P rated (W)	P measured (W)	Δ P	Required Δ P	Remark
-	-	-	-	-	-
Supplementary information:					

10.2	TABLE: Current deviation				P
Current deviation of/at:	I rated (A)	I measured (A)	Δ I	Required Δ I	Remark
(+)	(+)	(+)	(+)	(+)	(+)
Supplementary information: (+) **See raw data in Attachment 4**					

11.8	TABLE: Heating test			P
	Test voltage (V) ..... :	195V / 244V		—
	Ambient (°C) ..... :	26.7 indoor / 52 outdoor		—
Thermocouple locations		Max. temperature measured, T (°C)	Max. temperature limit, T (°C)	
(+)		(+)	(+)	
Supplementary information: (+) See raw data in Attachment 4				

11.8	TABLE: Heating test, resistance method					P
	Test voltage (V) ..... :	195V / 244V				—
	Ambient, t1 (°C) ..... :	26.7 indoor / 35 outdoor				—
	Ambient, t2 (°C) ..... :	26.7 indoor / 52 outdoor				—
Temperature rise of winding	R1 (Ω)	R2 (Ω)	T (°C)	Max. T (°C)	Insulation class	
(+)	(+)	(+)	(+)	(+)	(+)	
Supplementary information: (+) See raw data in Attachment 4						

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

13.2	TABLE: Leakage current		P
	Heating appliances: 1,15 x rated input (W).....:	N/A	—
	Motor-operated and combined appliances: 1,06 x rated voltage (V).....:	244V	—

Leakage current between	I (mA)	Max. allowed I (mA)
(+)	(+)	(+)

Supplementary information: (+) See raw data in Attachment 4

13.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Basic insulation – OD – 50 Hz		1250 Vac	No
Reinforced –ID – 50 Hz		4242 Vdc	No
Basic – ID – 50 Hz		1767 Vdc	No
Basic insulation – OD – 60 Hz		1250 Vac	No
Reinforced –ID – 60 Hz		4242 Vdc	No
Basic – ID – 60 Hz		1767 Vdc	No

Supplementary information: DC Dielectric procedure in IEC 60730-1 used at potential of 1.414x the required AC test voltage

14	TABLE: Transient overvoltages				N/A
Clearance between:	Cl (mm)	Required Cl (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)
-	-	-	-	-	-

Supplementary information:

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

16.2	TABLE: Leakage current		P
	Single phase appliances: 1,06 x rated voltage (V) .....:	244V	—
	Three phase appliances 1,06 x rated voltage divided by √3 (V) .....:	N/A	—

Leakage current between	I (mA)	Max. allowed I (mA)
L1 to Gnd	4.7	10
L2 to Gnd	5.0	10
Supplementary information: Reference report 4787569756		

16.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
EA1436AJ - L1/L2 to ground		1250V	NO
EA1436AJ – internal wiring insulation to contactor coil		1750V	NO
EA1436AJ – contactor contacts to coil		3000V	NO
EL3T3612SPACJA – L1/L2 to ground		1250V	NO
EL3T3612SPACJA – internal wiring insulation to transformer secondary		1750V	NO
EL3T3612SPACJA – transformer primary to secondary		3000V	NO
SAGN-018TA - L1/L2 to ground		1250V	NO
SAGN-018TA – internal wiring insulation to contactor coil		1750V	NO
SAGN-018TA – contactor contacts to coil		3000V	NO
EL3T3612SPACTA – L1/L2 to ground		1250V	NO
EL3T3612SPACTA – internal wiring insulation to transformer secondary		1750V	NO
EL3T3612SPACTA – transformer primary to secondary		3000V	NO
Supplementary information:			

17	TABLE: Overload protection		P
Thermocouple locations		Max. temperature rise measured, Δ T (C)	Max. temperature rise limit, Δ T (C)
Winding		183.6C (208.2C max temperature)	225C max temperature
Bobbin		119	N/A (+)
Terminal cover		98.4	N/A (+)

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

Secondary lead	12.3	50
Ambient	N/A	N/A
Supplementary information: (+) for reference purposes only		

17	TABLE: Overload protection, resistance method		N/A
	Test voltage (V) ..... :	-	—
	Ambient, t1 (°C) ..... :	-	—
	Ambient, t2 (°C) ..... :	-	—

Temperature of winding	R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)
-	-	-	-	-	-
Supplementary information:					

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

19	Abnormal operation conditions		P
Operational characteristics		YES/NO	Operational conditions
Are there electronic circuits to control the appliance operation?		Yes	Thermostat controls 24.1 to initiate operation
Are there “off” or “stand-by” position?		Yes	Standby mode when there is no call for heating or cooling
The unintended operation of the appliance results in dangerous malfunction?		No	No unintended operation results in hazardous consitions.

Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	Heating mode	Cycles on self resetting thermal cut-out	Self resetting thermal cut-out	N/A	N/A	Non-self resetting thermal cut-out (backup) control activates	P
19.3	Heating mode	Cycles on self resetting thermal cut-out	Self resetting thermal cut-out	N/A	N/A	Non-self resetting thermal cut-out (backup) control activates	P
19.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.7	Accepted per component certificates	Protection by self-resetting thermal cut-out	N/A	N/A	N/A	N/A	P
19.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.2	Accepted per component certificates	N/A	N/A	N/A	N/A	N/A	P
19.11.4.8	Cooling mode	Compressor shuts down on thermal	N/A	N/A	N/A	N/A	P

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Clause	Requirement + Test	Result - Remark	Verdict

		overload					
19.101	Cooling mode	Continued operation without hazard	N/A	N/A	N/A	N/A	P
19.102	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.103	Cooling mode	60 Hz - Cycles on self resetting thermal cut-out 50 Hz – de-energizes after non-self resetting thermal cut-out activates	60 Hz -Self resetting thermal cut-out 50 Hz – Non-self resetting thermal cut-out	N/A	N/A	N/A	P
19.104	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supplementary information:							

19.4	**Abnormal operation conditions**	P
Failure description	Effect	Verdict
Condenser Fan Failure	No hazardous conditions	P
Supplementary information:		

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Clause	Requirement + Test	Result - Remark	Verdict

19.7	**Abnormal operation conditions – locked rotor test other than motor-compressors and stationary circulation pumps in compliance with IEC 60335-2-51**		N/A
	Ambient, t1 (°C):	-°C	—
	Ambient, t2 (°C):	-°C	—
	Test voltage (V) :	-V	—

Temperature limit T of winding:	R_1 (Ω)	R_2 (Ω)	Measured T (°C)	Limit T (°C)	Insulation class
-	-	-	-	-	-

19.7	**TABLE: electric strength measurements after 72 hours**	N/A
Test voltage applied between:	Test voltage (V)	Breakdown Yes / No
-	-	-

19.7	**TABLE: leakage current measurements after 72 hours**	N/A
	A voltage equal to twice the rated voltage (V) :	—
Leakage current I between :	I (mA)	Required I (mA)
-	-	-

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Clause	Requirement + Test	Result - Remark	Verdict

19.7	**Abnormal operation conditions – Locked rotor test motor-compressor**		N/A
	Motor-compressor.....:	-	
	Start device .....:	-	
	Protector.....:	-	
	Start capacitor .....:	-	
	Run capacitor .....:	-	
	Cooling; (static); (fan-m^3/h); (oil); .....:	-	
	Thermal motor-protection system .....:	-	

	Self-resetting				Manually reset
Rated voltage	Vn max (V)			Vn max (V)	Vn min (V)
	After 72 h	After 288 h	After 360 h	After 363 h	After 50 cycles
High-voltage test (see 16.3)	-	-	-	-	-
Leakage current (mA) (see 16.2)	-	-	-	-	-
Electric strength (see 13.3)	-	-	-	-	-
Room temperature (°C) (20 ± 5°C)	-	-	-	-	-
Number of cycles (≥ 2000 or 50)	-	-	-	-	-
Housing temperature (°C) (≤ 150°C)	-	-	-	-	-
supplementary information: N/A per component certificates					

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Clause	Requirement + Test	Result - Remark	Verdict

19.11.2	Abnormal Operation			N/A
Fault condition	Short circuit	Open circuit	Effect	Verdict
-	-	-	-	-

19.13	TABLE: Abnormal operation, temperature rises	P
Thermocouple locations	Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
(+)	(+)	(+)
Supplementary information: (+) See raw data in Attachment 4		

19.101-104	Abnormal operation conditions	P
Subclause	Effect	Verdict
19.101	Continued operation without hazard	P
19.102	N/A	N/A
19.103	60 Hz - Cycles on self resetting thermal cut-out 50 Hz – de-energizes after non-self resetting thermal cut-out activates	P
19.104	N/A	N/A
Supplementary information:		

21.1	TABLE: Impact resistance		P
Impacts per surface	Surface tested	Impact energy	Comments
3	Guard/Condenser Grill	0.5J	P
Supplementary information:			

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

24.1	TABLE: Critical components information				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
All models (EA, SAGN and EL3T series)					
Ground Terminal	Interchangeable	Any Listed	Certified wire connector, pressure type, No. 4-14 AWG, unpainted, Ground symbol marked	UL467, CSA C22.2 No. 41	UL, CSA
Internal Wiring	Interchangeable	Any AVLV2 and CSA or AVLV8 recognized wiring material	Rated minimum 18AWG, 600V, 80C	UL758 and CSA C22.2 NO. 210	cURus or UR and CSA
Evaporator Section – EL3T series					
Enclosure	Interchangeable	Galvanized steel	0.027 in. minimum thickness	N/A	N/A
Filter Media	Interchangeable	Any	Any UL classified AJZV/7 filters	UL900 and ULC-S111	cULus
Evaporator coil	Rheem	N/A	Aluminium type, 1920 psig ultimate strength. Formed from 3/8” OD copper tubing with 0.029 in. wall thickness and return bends with 0.040 in. minimum wall thickness.	UL1995 and CSA C22.2 No. 236	N/A – evaluated as part of cULus listed end product

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Clause	Requirement + Test	Result - Remark	Verdict

(alternate)	Rheem	N/A	Copper type, 2370 psig ultimate strength. Formed from 3/8” OD copper tubing with 0.0115 in. wall thickness and return bends with 0.020 in. minimum wall thickness and 3/8 OD.	UL1995 and CSA C22.2 No. 236	N/A – evaluated as part of cULus listed end product
Expansion valve (Optional – provided when capillary tuber assembly is not provided)	Parker Hannifin (Sporlan)	CBBIZE(+)	700 psig design pressure. Thermal type.	UL207, CSA C22.2 No. 140.3	cURus
Capillary tube assembly (Optional – provided when expansion vale is not provided)	Rheem	Interchangeable	Copper tubing. 0.67 mm minimum thickness	IEC 60335-1, -2-40	Evaluated with appliance
Low voltage controller (Rheem Part No. 47-106202-01)	ICM Controls	BB4109	24Vac, SELV	IEC 60335-1, -2-40	Evaluated with appliance
Transformer	Zettler Controls	AHR40310FMQ2	Rated 208/240V 50/60Hz primary, 24V, 40VA secondary, Class 2, Class F	UL508 and CSA C22.2 no. 14	cURus
Evaporator motor – (model EL3T1812SPACTA only)	US Motors	K48HXNLG-1115	208-230V, 60 Hz, 1/10 hp, 0.5A, 1 ph	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T2412SPACTA only)	US Motors	K48HXNLG-1115 (SYP 160/200)	208-230V, 60 Hz, 0.5 A, 1 ph, 1/10 hp	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus

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Clause	Requirement + Test	Result - Remark	Verdict

Evaporator motor – (model EL3T3012SPACTA only)	Protech	M055	208-230V, 1/2 hp, 1 ph, 50/60 Hz, 4.1-3.9A	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T3612SPACTA only)	Protech	M055P(+)	208-230V, 50/60Hz, 4.1-3.9A, 1/2 hp, 1 ph	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T1812SPACJA only)	Protech	M055PW(+)	208-230V, 50/60Hz, 3.0-2.7A, 1ph, 1/3 hp	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T2412SPACJA only)	Protech	M055PW (part no. 51-106442-00)	208-230V, 50/60 Hz, 3.0-2.7 A, 1 ph, 1/3 hp, 1800 rpm, class B	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T3012SPACJA only)	Protech	M055	208-230V, 1/2 hp, 1 ph, 50/60 Hz, 4.1-3.9A	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T3612SPACJA only)	Protech	M055	208-230V, 1/2 hp, 1 ph, 50/60 Hz, 4.1-3.9A	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus

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

Evaporator motor – (model EL3T4216SPACJA and EL3T4216SPACTA only)	Nidec	M055PWMAM-2616	208-230V, ¾ hp, 1 ph, 50/60 Hz, 5.7/5.4 FLA thermally protected	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T4817SPACJA, EL3T4817SPACTA, EL3T4817STACTA only)	Nidec	M055PWMAM-2616	208-230V, 3/4 hp, 1 ph, 50/60 Hz, 5.7/5.4 FLA thermally protected	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Evaporator motor – (model EL3T6017STACJA030, EL3T6017STACTA, EL3T6517STACTA, and EL3T6517STACJA030 only)	US Motors	M055(+)	1 hp, 208-230V, 50/60Hz, 1~, Class B	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	cURus
Condensate Drain Pan	Polyone Corp	M3700 or M6215	1.5 mm min thick. Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Premix Inc	2200-22 CR/SX	1.47 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	B.F Goodrich	CIM 190	1.47 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Georgio Gulf Chemicals	HH 2000	1.7 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Dow	Questra EA-522 CD770278	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Dow	Questra EA-522 CD781000	2.4 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Polyone Corp	PP FR 8-6	2.2 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Citadel Plastics	15S3304CC	2.5 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus

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Clause	Requirement + Test	Result - Remark	Verdict

(alternate)	Spartech Polycom	FR4621-2E	3.0 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	H Muehlstein & Co. Inc.	PP-3582-9000	2.5 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Rogers Engineering	RS22-115	2.6 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Industrial Dielectics Inc	E5V-204	2.5 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Interplastic Corp Molding	1001ZZC	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Citadel Plastics	15E3252CC or 15S3304DC	3.0 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Premix	2006-(+)-CR-SX	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Premix	2007-(+)-CR-SX	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Polymer Resources	ABS FR	2.3 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	RTP Co.	RTP 199 x 130531M	3.0 mm min thick Rated V-0, 5VA	UL94 and CSA C22.2 NO. 0.17	cURus
(alternate)	Citadel Plastics	15S3304CC	2.46 mm min thi Rated V-0, 5VA ck	UL94 and CSA C22.2 NO. 0.17	cURus
Terminal Block	Molex	3910023	Rated 300V, 40A. T65	EN 60998-2-1 UL 1059, CSA C22.2 NO. 158 IEC 60335-1, -2-40	VDE, cURus, Evaluated in end-use
(alternate)	Weco Electrical	324-FU	Rated 600V, 35A, field wiring	UL1059	UR
(alternate)	Wieland Inc	10E	Rated 300V, 30A, field wiring	UL1059	UR

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(alternate)	Svenska Hellag AB	HE6H	Rated 600V, 40A, field wiring	UL1059	UR
(Alternate)	CQC (E468141)	CDD-3/2P	Rated 600V, 85A, 2-14AWG	UL 1059, CSA C22.2 No. 158	cURus
Control box and cover	Interchangeable	Steel	0.027 in. minimum thickness	UL94	UR
Thermal insulation adhesive	Interchangeable	Any	Any adhesive UL recognized for application to steel	UL2395	UR

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Clause	Requirement + Test	Result - Remark	Verdict

Thermal Insulation	Interchangeable	Any	Applied to inside of motor compartment and exterior of condensate pan Any UL-94HB rated material 3 mm minimum thickness	UL94	UR
Bushings	Interchangeable	Any	Any non-metallic bushings applied to wireways to preclude contact of wires with sheetmetal edges	N/A	N/A
Low voltage terminal blocks (2)	Molex	3910023	Rated 300V, 40A. T65	EN 60998-2-1 UL 1059, CSA C22.2 NO. 158 IEC 60335-1, -2-40	VDE, cURus, Evaluated in end-use
Coil thermostat	Interchangeable	Any	Connected to low voltage control board and attached to evaporator coil	IEC 60335-1, -2-40	Evaluated in end – use
EA and SAGN series (outdoor sections)					
Control compartment:					
Start Capacitor	CSC (Nueva Generacion Manufacturas S A DE C V)	328P(+)	Rated -40 to 70C, 370Vac, 10 000 AFC	UL810 and CSA C22.2 no. 190	cURus
Contactor	Zettler	XMC0-321-EBBB	Rated 24V coil; 32FLA and 180LRA at 240/277V; 50/60 Hz	UL508 and CSA C22.2 no. 14 IEC 60947-4-1	cURus (E222994)
Motor controller (optional)	Zettler	ZC9034(+)	Rated 6.9FLA, 41.4LRA at 250Vac; 3.5FLA, 21LRA at 480Vac. 50/60 Hz	UL508 and CSA C22.2 No. 14	cURus

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Clause	Requirement + Test	Result - Remark	Verdict

(models SAGN-048NA and EA1448AJ1NB030 only)	Zettler	XMC0-251-EBBB	Rated 24V coil; 25 FLA and 150LRA at 240/277V; 50/60 Hz	UL508 and CSA C22.2 no. 14 IEC 60947-4-1	cURus (E222994)
Machine compartment:					
Compressor (SAGN-036TA only)	Emerson (Copeland)	ZP36K5E-PFJ	220-240V, 1 ph, 50 Hz, 87 LRA, 20 RLA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(SAGN-030TA only)	Emerson (Copeland)	ZP31K5E-PFJ	220-240V, 1 ph, 50 Hz, 67-61 LRA, 17.1 RLA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(SAGN-024TA only)	Emerson (Copeland)	ZP24K5E-PFJ	220-240V, 1 ph, 50 Hz, 60-54 LRA, 12.8 RLA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,

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Clause	Requirement + Test	Result - Remark	Verdict

(SAGN-018TA only)	Emerson (Copeland)	ZP20K5E-PFJ	220/240V, 1 ph, 50 hz, 52-45LRA, 10.5FLA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(EA1418AJ only)	Emerson (Copeland)	ZP14KAE-PFV	208-230V, 1ph, 60 Hz, 46 LRA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(EA1424AJ only)	Emerson (Copeland)	ZP20KAE-PFV (part no. 55-102045-97)	208-230V, 1 ph, 60 Hz, 60.8 LRA, 13 RLA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(EA1436AJ only)	Emerson (Copeland)	ZP29K5E-PFV	208-230V, 1 ph, 60 Hz, 77 LRA, 16.2 RLA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,

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Clause	Requirement + Test	Result - Remark	Verdict

(SAGN042 only)	Emerson (Copeland)	ZP42K5E-PFJ	220-240V, 1 ph, 50 Hz, 98 LRA, 21 RLA	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(SAGN042N only)	Emerson (Copeland)	ZP44K5E-TFD	380-420V, 3~, 50Hz, 47.0-52.0 LRA, 9.0 Imax, IP21	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(EA1442AJ1NA only)	Emerson (Copeland)	ZP36K5E-PFV	208-230V, 1 ph, 60 Hz, 112 LRA, 28 RLA. 45uF / 370V run capacitor	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(EA1442BJ1NB030 only)	Emerson (Copeland)	ZP49K5E-PFV	208-230, 1~, 60 Hz, 134 LRA, 39 MCC; 200V, 1~, 50 Hz, 134 LRA, 39 MCC	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,

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Clause	Requirement + Test	Result - Remark	Verdict

(SAGN048NA only)	Emerson (Copeland)	ZP57K5E-TFD	460V, 3~, 60 Hz, 66.1 LRA, 13.6 MCC; 380/420V, 3~, 50 Hz, 67.1 LRA, 13.3 MCC	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2.	cURus
(SAGN-048N only)	Copeland	ZP44K5E-TFD-130	380-420V, 3~, 50Hz, 47.0-52.0 LRA, 9.0 Imax, IP21	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus, N/A [CB cert # DK-3319-A3-UL]
(EA1448AJ1NA only)	Emerson (Copeland)	ZP42K5E-PFV	208-230V, 1~, 60 Hz, 117 LRA, 34 MCC, 70uF/370V capacitor	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus,
(EA1448AJ1NA only - alternate)	Emerson (Copeland)	ZP39K5E-PFV	208-230V, 1~, 60 Hz, 109 LRA, 27 Imax, 45uF/370V run capacitor	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus, N/A [CB cert # DK-31458-A3-UL]

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Clause	Requirement + Test	Result - Remark	Verdict

(EA1460AJ1NB only)	Emerson (Copeland)	ZP49K6E-PFV	208-230v, 1~, 60hZ, 152.5 LRA, 30.0 Imax, IP21	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus, N/A [CB cert # DK-33211-A3-UL]
(SAGN-060N only)	Copeland	ZP57K5E-TFD	380-420V, 3~, 50Hz, 67.1 LRA, 10.2 Imax, IP21	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2.	cURus,
(SAGN-065 only)	Copeland	ZP61KCE-TFD	380-420V, 3~, 50Hz, 58.0-64.0 LRA, 11.8 Imax, IP21	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2.	cURus,
(EA1465AJ1NB030 only)	Copeland	ZP54K5E-PFV	208-230v, 1~, 60hZ, 134.0 LRA, 36.0 Imax, IP21	UL60335-1, UL60335-2-34, CSA C22.2 No. 140.2. CB certificate provided with no associated marks: IEC 60335-1 and IEC 60335-2-34	cURus, N/A [CB cert # DK-63751-A3-UL]
Condenser Fan motor – models SAGN-036TA only	Genteq (Protech)	5SME39HL (Rheem part no. 51-102728-13)	Class B, Cont. Air Over, Electronically protected, 60/50 Hz, 1/3 HP, 208-230V, 2.8A, 870 RPM	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(SAGN-030TA only)	Genteq (Protech)	5KCP39PF (Rheem part no. 51-101774-15)	Class B, Cont Air Over, thermally protected, 60 Hz, 1 ph, 0.68A, 850 RPM, 1/8 HP, 208-230V	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA

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Clause	Requirement + Test	Result - Remark	Verdict

(SAGN-024TA only)	Protech	M055(+) (51-104691-01)	208-230V, 1ph, 60 Hz, 1/3 hp	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(SAGN-018TA only)	Protech	M055(+)	208-230V, 1ph, 60 Hz, 1/3 hp	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(EA1418AJ only)	Genteq	5KCP39BGAG13S (51-104691-01)	208-230V/220-240V, 1ph, 60/50 Hz, 1/10 hp	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(EA1424AJ only)	US Motors	K55XHREL-1903 (51-102008-18)	208-230V, 1ph, 60 Hz, 1/10 hp	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(EA1430AJ only)	Genteq	5KCP39PFBC43S (51-101774-02)	208-230V, 1ph, 60 Hz, 1/8 hp	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(EA1436AJ only)	Genteq	5KCP39FFAB20AS (part no. 51-10774-02)	60 Hz, 1/6 hp, 208-230V, 0.6A	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(EA1442AJ1NB030 and EA1442BJ1NB030 only)	Nidec	K48HXNES-1193	208-230/220-240V, 60/50Hz, 0.7A, 1 ph, 1/8 hp, 1075 rpm, thermally protected.	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(SAGN048NA only)	Genteq	5KCP39PGBF(CPN # 51-100998-20)	60/50 Hz, 1/3 hp, 460/380-415V, 1.00A, 1050 RPM, 7.5uF/370V cap, thermally protected	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA

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Clause	Requirement + Test	Result - Remark	Verdict

(EA1448AJ1NA only)	Genteq	5KCP39KFZ632S	60/50 Hz, 1 ph, 1/5 hp, 208-230/220-240V, 1.20A, 820 RPM, 10.00µF / 370V capacitor, thermally protected	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(EA1460AJ1NB only)	Genteq	5SME39HL HF038	240V, 60/50 Hz, 1/3 HP, 3.5A, Class B insulation	UL1004-1, UL1004-3,	UR
(SAGN-048N only)	Genteq	5KCP39PGBA24S	380-415V, 1/3 HP, 50 HZ, 1.00A, 7.5uF/370V cap, class B	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(SAGN-060N only)	Genteq	5KCP39JGBC75S	380-415V, 1/3 HP, 50 HZ, 0.90A, 10uF/370V cap, class B	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(SAGN-065N only)	Genteq	5KCP39SFU308S	380-415V, 1/2 HP, 50 HZ, 1.50A, 10uF/370V cap, class B	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
(EA1465AJ1NB030 only)	Genteq	5KCP39SGU896AS	208-230V, 60 Hz, 1/3 HP, 1.6A, Class B insulation	UL1004-1, UL1004-3, and CSA C22.2 NO. 77	UR and CSA
Filter Drier	Parker-Hannifin	700	540 psig design pressure	UL207, CSA C22.2 No. 140.3	UR
(alternate)	Parker Hannifin	CW-083-S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus and CSA
(alternate)	Alco(Emerson)	BFK-16(@)(+)	600 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus and CSA
(alternate)	Parker Hannifin	C-053S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Parker Hannifin	C-083S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Parker Hannifin	C-163S, -165S	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus

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(alternate)	Alco(Emerson)	EK(+)	680 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Alco(Emerson)	ADK(+)	680 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Parker	735	600 psig design pressure	UL207	UR
(alternate)	Alco(Emerson)	BFK(@@)(+)	680 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Chatleff	5320	550 psig design pressure	UL207	UR
(alternate)	TSI Technologies	HF20R-L-3B-00	720 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	TSI Technologies	HF20R-L-3A-00	660 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Zhejiang Sanhua	DTG (+)	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
(alternate)	Zhejiang Sanhua	STG (+)	700 psig design pressure	UL207, CSA C22.2 No. 140.3	cULus
Condenser Coil	Rheem	N/A	2370 psig ultimate strength. Formed from 3/8” OD copper tubing with 0.0115 in. wall thickness and return bends with 0.020 in. minimum wall thickness.	UL1995 and CSA C22.2 No. 236	N/A – evaluated as part of cULus listed end product

Supplementary information:

[1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

28.1	TABLE: Threaded part torque test		P
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)
ID – Ground lug (representative of OD ground lug)	6.21	I	2.71 N* m (+)

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OD – field wiring compartment (Also representative of ID – field wiring compartment and ID – heater access panel)	4.11	II	2.71 N* m (++)

Supplementary information: (+) 0.8 N*m required but 2.71 is meter minimum

(++) 1.8 N*m required but 2.71 is meter minimum

29.1	TABLE: Clearances					P
	Overvoltage category.....		II			—
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark
~~330~~	~~0,2* / 0,5 / 0,8**~~	-	-	-	-	N/A
~~500~~	~~0,2* / 0,5 / 0,8**~~	-	-	-	-	N/A
~~800~~	~~0,2* / 0,5 / 0,8**~~	-	-	-	-	N/A
~~1 500~~	~~0,5 / 0,8** / 1,0***~~	-	-	-	-	N/A
2 500	1,5 / 2,0***	7.92 / 16.24 (+)	>100 / > 100 (+)	-	19.4 / 8.67 (+)	P
4 000	3,0 / 3,5***	-	-	47.44 / 18.33(+)	-	P
~~6 000~~	~~5,5 / 6,0***~~	-	-	-	-	N/A
~~8 000~~	~~8,0 / 8,5***~~	-	-	-	-	N/A
~~10 000~~	~~11,0 / 11,5***~~	-	-	-	-	N/A

Supplementary information:

*) For tracks on printed circuit boards if pollution degree 1 and 2

**) For pollution degree 3

***) If the construction is affected by wear, distortion, movement of the parts or during assembly

(+) Clearance noted for: ODU / IDU

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Clause	Requirement + Test	Result - Remark	Verdict

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			Verdict
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	
~~≤50~~	~~0,18~~	~~0,6~~	~~0,85~~	~~1,2~~	~~1,5~~	~~1,7~~	~~1,9~~	N/A	—	—	N/A
~~≤50~~	~~0,18~~	~~0,6~~	~~0,85~~	~~1,2~~	~~1,5~~	~~1,7~~	~~1,9~~	—	N/A	—	N/A
~~≤50~~	~~0,36~~	~~1,2~~	~~1,7~~	~~2,4~~	~~3,0~~	~~3,4~~	~~3,8~~	—	—	N/A	N/A
~~125~~	~~0,28~~	~~0,75~~	~~1,05~~	~~1,5~~	~~1,9~~	~~2,1~~	~~2,4~~	N/A	—	—	N/A
~~125~~	~~0,28~~	~~0,75~~	~~1,05~~	~~1,5~~	~~1,9~~	~~2,1~~	~~2,4~~	—	N/A	—	N/A
~~125~~	~~0,56~~	~~1,5~~	~~2,1~~	~~3,0~~	~~3,8~~	~~4,2~~	~~4,8~~	—	—	N/A	N/A
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	7.92	—	—	P
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	—	>100	—	P
250	1,12	2,5	3,6	5,0	6,4	7,2	8,0	—	—	18.33	P
~~400~~	~~1,0~~	~~2,0~~	~~2,8~~	~~4,0~~	~~5,0~~	~~5,6~~	~~6,3~~	~~N/A~~	—	—	~~N/A~~
~~400~~	~~1,0~~	~~2,0~~	~~2,8~~	~~4,0~~	~~5,0~~	~~5,6~~	~~6,3~~	—	~~N/A~~	—	~~N/A~~
~~400~~	~~2,0~~	~~4,0~~	~~5,6~~	~~8,0~~	~~10,0~~	~~11,2~~	~~12,6~~	—	—	~~N/A~~	~~N/A~~
~~500~~	~~1,3~~	~~2,5~~	~~3,6~~	~~5,0~~	~~6,3~~	~~7,1~~	~~8,0~~	~~N/A~~	—	—	~~N/A~~
~~500~~	~~1,3~~	~~2,5~~	~~3,6~~	~~5,0~~	~~6,3~~	~~7,1~~	~~8,0~~	—	~~N/A~~	—	~~N/A~~
~~500~~	~~2,6~~	~~5,0~~	~~7,2~~	~~10,0~~	~~12,6~~	~~14,2~~	~~16,0~~	—	—	~~N/A~~	~~N/A~~
~~>630 and ≤800~~	~~1,8~~	~~3,2~~	~~4,5~~	~~6,3~~	~~8,0~~	~~9,0~~	~~10,0~~	~~N/A~~	—	—	~~N/A~~
~~>630 and ≤800~~	~~1,8~~	~~3,2~~	~~4,5~~	~~6,3~~	~~8,0~~	~~9,0~~	~~10,0~~	—	~~N/A~~	—	~~N/A~~
~~>630 and ≤800~~	~~3,6~~	~~6,4~~	~~9,0~~	~~12,6~~	~~16,0~~	~~18,0~~	~~20,0~~	—	—	~~N/A~~	~~N/A~~
~~>800 and ≤1000~~	~~2,4~~	~~4,0~~	~~5,6~~	~~8,0~~	~~10,0~~	~~11,0~~	~~12,5~~	~~N/A~~	—	—	~~N/A~~
~~>800 and ≤1000~~	~~2,4~~	~~4,0~~	~~5,6~~	~~8,0~~	~~10,0~~	~~11,0~~	~~12,5~~	—	~~N/A~~	—	~~N/A~~
~~>800 and ≤1000~~	~~4,8~~	~~8,0~~	~~11,2~~	~~16,0~~	~~20,0~~	~~22,0~~	~~25,0~~	—	—	~~N/A~~	~~N/A~~
~~>1000 and ≤1250~~	~~3,2~~	~~5,0~~	~~7,1~~	~~10,0~~	~~12,5~~	~~14,0~~	~~16,0~~	~~N/A~~	—	—	~~N/A~~
~~>1000 and ≤1250~~	~~3,2~~	~~5,0~~	~~7,1~~	~~10,0~~	~~12,5~~	~~14,0~~	~~16,0~~	—	~~N/A~~	—	~~N/A~~
~~>1000 and ≤1250~~	~~6,4~~	~~10,0~~	~~14,2~~	~~20,0~~	~~25,0~~	~~28,0~~	~~32,0~~	—	—	~~N/A~~	~~N/A~~
~~>1250 and ≤1600~~	~~4,2~~	~~6,3~~	~~9,0~~	~~12,5~~	~~16,0~~	~~18,0~~	~~20,0~~	~~N/A~~	—	—	~~N/A~~

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Clause	Requirement + Test	Result - Remark	Verdict

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			Verdict
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—	N/A	—	N/A
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—	N/A	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A	—	—	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—	N/A	—	N/A
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—	N/A	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A	—	—	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—	N/A	—	N/A
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—	N/A	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A	—	—	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—	N/A	—	N/A
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—	N/A	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A	—	—	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—	N/A	—	N/A
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—	N/A	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A	—	—	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—	N/A	—	N/A
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—	N/A	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A	—	—	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—	N/A	—	N/A
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—	N/A	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A	—	—	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—	N/A	—	N/A
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—	N/A	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A	—	—	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—	N/A	—	N/A
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—	N/A	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance (mm) Pollution degree							Type of insulation			Verdict
	1	2			3						
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	
~~>10000 and ≤12500~~	~~40,0~~	~~50,0~~	~~71,0~~	~~100,0~~	~~125,0~~	~~140,0~~	~~160,0~~	~~N/A~~	~~—~~	~~—~~	~~N/A~~
~~>10000 and ≤12500~~	~~40,0~~	~~50,0~~	~~71,0~~	~~100,0~~	~~125,0~~	~~140,0~~	~~160,0~~	~~—~~	~~N/A~~	~~—~~	~~N/A~~
~~>10000 and ≤12500~~	~~80,0~~	~~100,0~~	~~142,0~~	~~200,0~~	~~250,0~~	~~280,0~~	~~320,0~~	~~—~~	~~—~~	~~N/A~~	~~N/A~~
Supplementary information: *) Material group IIIb is allowed if the working voltage does not exceed 50 V **) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation											

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Clause	Requirement + Test	Result - Remark	Verdict

29.2	TABLE: Creepage distances, functional insulation							P
Working voltage (V)	Creepage distance (mm) Pollution degree							Verdict / Remark
	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	
~~≤10~~	~~0,08~~	~~0,4~~	~~0,4~~	~~0,4~~	~~1,0~~	~~1,0~~	~~1,0~~	N/A
~~50~~	~~0,16~~	~~0,56~~	~~0,8~~	~~1,1~~	~~1,4~~	~~1,6~~	~~1,8~~	N/A
~~125~~	~~0,25~~	~~0,71~~	~~1,0~~	~~1,4~~	~~1,8~~	~~2,0~~	~~2,2~~	N/A
250	0,42	1,0	1,4	2,0	2,5	2,8	3,2	P / 8.67
~~400~~	~~0,75~~	~~1,6~~	~~2,2~~	~~3,2~~	~~4,0~~	~~4,5~~	~~5,0~~	N/A
~~500~~	~~1,0~~	~~2,0~~	~~2,8~~	~~4,0~~	~~5,0~~	~~5,6~~	~~6,3~~	N/A
~~>630 and ≤800~~	~~1,8~~	~~3,2~~	~~4,5~~	~~6,3~~	~~8,0~~	~~9,0~~	~~10,0~~	N/A
~~>800 and ≤1000~~	~~2,4~~	~~4,0~~	~~5,6~~	~~8,0~~	~~10,0~~	~~11,0~~	~~12,5~~	N/A
~~>1000 and ≤1250~~	~~3,2~~	~~5,0~~	~~7,1~~	~~10,0~~	~~12,5~~	~~14,0~~	~~16,0~~	N/A
~~>1250 and ≤1600~~	~~4,2~~	~~6,3~~	~~9,0~~	~~12,5~~	~~16,0~~	~~18,0~~	~~20,0~~	N/A
~~>1600 and ≤2000~~	~~5,6~~	~~8,0~~	~~11,0~~	~~16,0~~	~~20,0~~	~~22,0~~	~~25,0~~	N/A
~~>2000 and ≤2500~~	~~7,5~~	~~10,0~~	~~14,0~~	~~20,0~~	~~25,0~~	~~28,0~~	~~32,0~~	N/A
~~>2500 and ≤3200~~	~~10,0~~	~~12,5~~	~~18,0~~	~~25,0~~	~~32,0~~	~~36,0~~	~~40,0~~	N/A
~~>3200 and ≤4000~~	~~12,5~~	~~16,0~~	~~22,0~~	~~32,0~~	~~40,0~~	~~45,0~~	~~50,0~~	N/A
~~>4000 and ≤5000~~	~~16,0~~	~~20,0~~	~~28,0~~	~~40,0~~	~~50,0~~	~~56,0~~	~~63,0~~	N/A
~~>5000 and ≤6300~~	~~20,0~~	~~25,0~~	~~36,0~~	~~50,0~~	~~63,0~~	~~71,0~~	~~80,0~~	N/A
~~>6300 and ≤8000~~	~~25,0~~	~~32,0~~	~~45,0~~	~~63,0~~	~~80,0~~	~~90,0~~	~~100,0~~	N/A
~~>8000 and ≤10000~~	~~32,0~~	~~40,0~~	~~56,0~~	~~80,0~~	~~100,0~~	~~110,0~~	~~125,0~~	N/A
~~>10000 and ≤12500~~	~~40,0~~	~~50,0~~	~~71,0~~	~~100,0~~	~~125,0~~	~~140,0~~	~~160,0~~	N/A
Supplementary information: *) Material group IIIb is allowed if the working voltage does not exceed 50 V								

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30	**TABLE: Resistance to heat and fire**																			
Object/ part No.	Manufacturer/ trademark	Type/ model	Ball pressure test °C				Glow wire test (GWT) °C					Glow-wire flammability index (GWFI) °C				Glow- wire ignition temp. (GWIT) °C		Needle-flame test (NFT)	Verdict
			75	125	cl. 11 +40	cl. 19 +25	550	650		750		850	550	650	750	850	675	775		
								te	ti	te	ti									
terminal block	Molex	3910025	-	(+)	-	-	X	(+)	(+)	21,7	0	(+)	-	-	-	-	-	-	-	P
ICM BB4109 relay #1	Tianbo	HJR-3FA-SV-Z	-	0,8	-	-	x	-	-	1,71	0	x	-	-	-	-	-	-	-	P
ICM BB4109 relay #2	Tianbo	TR5VM-S-Z	-	0,8	-	-							-	-	-	-	-	-	-	P
ICM BB4109 Conector J3	JST	B02P-XL-HDB	-	0,5	-	-	x	-	-	4,7	0	X	-	-	-	-	-	-	-	P
PCB	ICM	BB4109	-	-	-	-							-	-	-	-	-	-	-	P

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Condensate Drain Pan	Polyone Corp	M3700	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-	-	P
Transformer – case	Zettler Controls	AHR40310MFQ2	-	0,7	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	P
Transformer – bobbin	Zettler Controls	AHR40310MFQ2	-	1,2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Contactor – coil	Zettler	XMC0-321-EBBB	-	1,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Contactor - case	Zettler	XMC0-321-EBBB	-	0,9	-	-	X	-	-	3	0	x	-	-	-	-	-	-	-	P

Supplementary information:

(+) N/A per component certifications

[1)] Parts of material classified at least HB40 or if relevant HBF

[2)] Parts of material classified as V-0 or V-1

[3)] Flame persisting longer than 2 s (= t_e – t_i) need only be reported for unattended appliances

[4)] Surrounding parts subjected to the needle-flame test of annex E

[5)] Base material classified as V-0 or if relevant VTM-0

[6)] The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not applicable for attended appliances

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Appendix EMF			N/A
	TEST: Evaluation of the magnetic fields		N/A
Applied standards:	IEC 62233:2005, EN 62233:2008 (incl. Corr.1:2008)		N/A
Method	Used method: 5.5.2 Time domain evaluation		—
Applied Limit	ICNIRP Guidelines		—
Identification of the appliance	Type of apparatus	N/A	
	Rated Voltage	N/A	
	Rated Frequency	N/A	
Parameters required prior to the test	Laboratory Ambient Temperature	25 °C ± 10 °C	
	Supply Voltage	(Rated Voltage ± 2 %) V	
	Supply Frequency	(Rated Frequency ± 2 %) Hz	
Parameters recorded during the test	Laboratory Ambient Temperature	°C	
	Supply Voltage	V	
	Supply Frequency	Hz	
Operating Mode			

Method 5.5.2

Measuring Positions	Measuring Distance	Coupling Factor	Measurement Uncertainty
N/A	N/A	N/A	N/A

Frequency (kHz)	Limit (%)	Measured Maximum Value (%)
0,01 to 400	100	N/A

Supplementary information:

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

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Photos:

See Attachment 2

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Clause	Requirement + Test	Result - Remark	Verdict

List of test equipment used:

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

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