



Test Report issued under the responsibility of:



TEST REPORT IEC 60335-2-24 Safety of household and similar electrical appliances Part 2: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers	
Report Number.:	HU231A40 002
Date of issue	2024-10-14
Total number of pages	26
Name of Testing Laboratory preparing the Report	TÜV Rheinland InterCert Kft., MEEI Division H-1143 Budapest, Gizella út 51-57, Hungary
Applicant's name	A/S VESTFROST
Address	Falkevej 12 DK-6705 Esbjerg Ø, Denmark
Test specification:	
Standard	IEC 60335-2-24:2010, AMD1:2012, AMD2:2017 in conjunction with IEC 60335-1:2010, COR1:2010, COR2:2010, AMD1:2013, COR1:2014, AMD2:2016, COR1:2016
Test procedure.....	CB Scheme
Non-standard test method.....	N/A
Test Report Form No.....	IEC60335_2_24R
Test Report Form(s) Originator.....	Electrosuisse
Master TRF	Dated 2017-11-09
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Test item description	Freezer	
Trade Mark	VESTFROST SOLUTIONS	
Manufacturer	Same as applicant	
Model/Type reference	VLS 054A SDD, VLS 094A SDD, VLS 154A SDD, VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD, VLS 076 RF SDD, VFS 048 SDD, VLS 086A RF SDD, VLS 096 RF SDD	
Ratings	15-28 V DC, 8,5-3,5 A or 11,1-4,5 A Climate class T, R600a or/and R290 see on page 5	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	TÜV Rheinland InterCert Kft., MEEI Division	
Testing location/ address	H-1143 Budapest, Gizella út 51-57, Hungary	
Tested by (name, function, signature)	Péter Szabó test engineer	
Approved by (name, function, signature) ..	László Nógrádi reviewer	
Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) .		
Approved by (name, function, signature) ..		
Testing procedure: CTF Stage 3:		
Testing procedure: CTF Stage 4:		
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) .		
Approved by (name, function, signature) ..		
Supervised by (name, function, signature) :		

List of Attachments (including a total number of pages in each attachment): -**Summary of testing:**

This test report is based on, and valid only together with the CB test report HU231A40 001, issued by TÜV Rheinland InterCert Kft., Division MEEI.

Report history:

HU231A40 001 – Original report

Scope of modification:

New alternative component: EMI filter

All applicable tests were performed on model VLS 096 RF SDD, see below.

Tests performed (name of test and test clause):

Tested clauses: 10,11(partial), 24.

Testing location:

TÜV Rheinland InterCert Kft., MEEI Division
H-1143 Budapest, Gizella út 51-57, Hungary

Summary of compliance with National Differences

List of countries addressed: -

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.

VESTFROST SOLUTIONS		
WHO/PQS Code: E003/132		
VLS 096A RF SDD	Serial No.: 20224534392	
Made in Denmark		
Gross vol.: 147 L Vaccine storage capacity: 110 L		
15-28 V ~ 8,5-3,5 A Climate class T		
Waterpack storage capacity: 28 x 0,6 L Waterpack freezing cap.: 2,4 kg		
www.vestfrostsolutions.com		
Service phone: +45 79142250		
Type : VLS 096	  	
		Refrigerant Freezer: R600a 0,035kg R290 0,015kg Refrigerant Cooler: R600a 0,075kg 1-X10600270910103 Prod nr.:554078

Type	Model	Rated current	Type of thermostat	Alternative type of thermostat	Compressor	Refrigerant kg	Heating power
Refrigerator	VLS 054A SDD	8,5-3,5 A	XR30CH XR10CH	EMS XR10CH	BD35K	R600a 0,050 kg	18,8 W
Refrigerator	VLS 094A SDD	8,5-3,5 A	XR30CH XR10CH	EMS XR10CH	BD35K	R600a 0,050 kg	21,5 W
Refrigerator	VLS 154A SDD	8,5-3,5 A	XR30CH XR10CH	EMS XR10CH	BD35K	R600a 0,050 kg	30W
Refrigerator	VLS 024 SDD	8,5-3,5 A	XR30CH KR10CH	EMS XR10CH	BD35K	R600a 0,035 kg	12,5 W
Combi	VLS 026 RF SDD	11,1-4,5 A	XR30CH XR10CH K54	EMS XR10CH K54	BD35K x 2	1.R600a 0,030 kg R290 0,010 kg 2.R600a 0,035 kg	12,5 W
Combi	VLS 056 RF SDD	11,1-4,5 A	XR30CH XR10CH K54	EMS XR10CH K54	BD35K x 2	1.R600a 0,030 kg R290 0,010 kg 2.R600a 0,040 kg	14 W
Combi	VLS 076 RF SDD	11,1-4,5 A	XR30CH XR10CH K54	N/A	BD35K x 2	1.R600a 0,030 kg R290 0,010 kg 2.R600a 0,050 kg	17,8 W
Freezer	VFS 048 SDD	8,5-3,5 A	K54	N/A	BD35K	R600a 0,030 kg R290 0,010 kg	N/A
True combi	VLS 086A RF SDD	8,5-3,5 A	2 x XR30CH	EMS XR30CH	BD35K x 2	1.R600a 0,030 kg R290 0,010 kg 2.R600a 0,040 kg	21,5 W
True combi	VLS 096 RF SDD	8,5-3,5 A	2 x XR30CH	EMS XR30CH	BD35K x 2	1.R600a 0,030 kg R290 0,015 kg 2.R600a 0,075 kg	31 W

Test item particulars :	
Classification of installation and use : Stationary appliance	
Supply Connection : Cord without plug	
..... :	
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing :	
Date of receipt of test item : 2024-08-27	
Date (s) of performance of tests : 2024-08-27– 2024-10-14	
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.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:	
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) : A/S VESTFROST DK-6705 Esbjerg, Falkevej 12	
General product information:	
Freezer for commercial use.	

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
10	POWER INPUT AND CURRENT		
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1.:	(see appended table)	N/A
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the power input is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated power input is related to the arithmetic mean value		N/A
	Appliances being operated under normal operation, user adjustable temperature controls are set to give the lowest temperature (IEC 60335-2-24)		N/A
	The power input stabilized, steady conditions established (IEC 60335-2-24)		N/A
	A period between the making and the breaking of the temperature control, or highest and lowest values of power input measured excluding starting power input but including the power input of the incorporated ice-maker, if any (IEC 60335-2-24)		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
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the current is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated current is related to the arithmetic mean value of the range		N/A
	The appliance being operated under normal operation, user adjustable temperature controls are set to give the lowest temperature (IEC 60335-2-24)		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	The appliance is operated for 1 h. The max. value of the current averaged over any 5 min period is obtained. The interval shall not exceed 30 s. Starting after 1 min (IEC 60335-2-24)		P
10.101	The power input of the defrosting system, deviation shown in Table 1 (IEC 60335-2-24)		N/A
10.102	The power input of any heating system, deviation shown in Table 1 (IEC 60335-2-24)		N/A
11	HEATING		
11.1	No excessive temperatures in normal use		P
	If the winding temperatures of motor-compressors exceed the values given in Table 101, compliance is checked by the test of 11.101 (IEC 60335-2-24)		N/A
	The winding temperatures of motor-compressors conforming IEC 60335-2-34 (incl. Annex AA) are not measured (IEC 60335-2-24)		P
11.2	Placing and mounting of appliance as described (IEC 60335-2-24)		N/A
11.3	Temperature rises, other than of windings, determined by thermocouples		P
	Temperature rises of windings determined by resistance method, unless		P
	the windings are non-uniform or it is difficult to make the necessary connections		N/A
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W) :		N/A
11.5	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)..... :	14,4 V	P
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)..... :		N/A
11.7	Operation duration corresponding to the most unfavourable conditions of normal use		P
	The appliances is operated until steady conditions are established (IEC 60335-2-24)		P
11.8	Temperature rises monitored continuously and not exceeding the values in table 3 :	(see appended table)	P
	If the temperature rise of a motor winding exceeds the value of table 3, or		N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	Sealing compound does not flow out		P
	Protective devices do not operate, except		P
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A
	During the test protective devices do not operate (IEC 60335-2-24)		P
	During the test sealing compound doesn't flow out (IEC 60335-2-24)		N/A
	During the test temperatures are monitored continuously (IEC 60335-2-24)		P
	For (SN) and (N) class, the temperature rises not exceeding values in Table 3 (IEC 60335-2-24)		N/A
	For (ST) and (T) class, the temperature rises not exceeding values in Table 3 reduced by 7 K (IEC 60335-2-24)	T	P
	For motor-compressors not conforming to IEC 60335-2-34 (incl. its Annex AA), the temperatures of (IEC 60335-2-24)		—
	- housings of motor-compressors and		N/A
	- windings of motor-compressors		N/A
	shall not exceed the values given in Table 101		N/A
	For motor-compressors conforming to IEC 60335-2-34 (including its Annex AA), the temperatures are not measured (IEC 60335-2-24)	informative	P
	The temperature rise of the external enclosure of motor-operated appliances not applicable for: (IEC 60335-2-24)		—
	-built-in appliances		N/A
	-other appliances (distance from a wall < 75 mm)		N/A
	-max. temperature rises specified in Table 101		N/A
	The temperature of ballast windings and their associated wiring shall not exceed the values specified in 12.4 of IEC 60598-1, when measured under the conditions stated (IEC 60335-2-24)		N/A
11.101	If the temperatures exceed the limits, the test is carried out again (IEC 60335-2-24):		—
	-winding temperatures at the end of a running cycle not higher than the limits given in Table 101		N/A
11.102	Any defrosting system, temperature rises don't exceed the values given in 11.8 (IEC 60335-2-24)		N/A
	Manual defrosting (IEC 60335-2-24)		N/A
	Automatic defrosting (IEC 60335-2-24)		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
11.103	Heating systems, other than defrosting, temperature rises don't exceed the values given in 11.8 (IEC 60335-2-24)		N/A
24	COMPONENTS		
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components..... :	(see appended table)	P
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance		P
	Relays tested as part of the appliance, or		N/A
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1		N/A
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance		P
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		P
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections		P
	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2		P
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met		P
	If these conditions are not satisfied, the component is tested as part of the appliance.		N/A
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance		N/A
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		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

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance		P
	Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard		N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC 60309	no plug	N/A
	Motor-compressors are not required to be separately tested according to (IEC 60335-2-34) nor are they required to meet the requirements of (IEC 60335-2-34) if they meet the requirements of this standard (IEC 60335-2-24)		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, comply with IEC 60384-14		N/A
	If the capacitors have to be tested, they are tested according to Annex F		N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16		N/A
	Safety isolating transformers comply with IEC 61558-2-6		N/A
	If they have to be tested, they are tested according to Annex G		N/A
24.1.3	Switches comply with IEC 61058-1, the number of cycles of operation being at least 10 000		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
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		N/A
	The number of operations for other switches (IEC 60335-2-24):		—
	- quick-freeze switches: 300		N/A
	- manual and semi-automatic defrost switches 300		N/A
	- door switches 50 000		N/A
	- on/off switches 300		P

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		N/A
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10'000 as specified, the complete switching system need not be tested		N/A
24.1.4	Automatic controls comply with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		—
	- thermostats: 10 000		P
	- temperature limiters: 1 000		N/A
	- self-resetting thermal cut-outs: 300		N/A
	- voltage maintained non-self-resetting thermal cut-outs: 1 000		N/A
	- other non-self-resetting thermal cut-outs: 30		N/A
	- timers: 3 000		N/A
	- energy regulators: 10 000		N/A
	- self-resetting thermal cut-outs which may influence the test results of 19.101 and which are not short-circuited during this test: (IEC 60335-2-24) 100 000		N/A
	- thermostats which control the motor- compressor: (IEC 60335-2-24) 100 000	electronic thermostat used	P
	- motor-compressor starting relays: (IEC 60335-2-24) 100 000		N/A
	- automatic thermal motor-protectors for motor-compressors of the hermetic and semi-hermetic type: (IEC 60335-2-24) 2 000 or acc to 15 day-test		P
	- manual reset thermal motor-protectors for motor-compressors of the hermetic and semi-hermetic type: (IEC 60335-2-24) 50		N/A
	- other automatic thermal motor-protectors: except for fan-motors (IEC 60335-2-24) 2 000		N/A
	- other manual reset thermal motor protectors: (IEC 60335-2-24) 30		N/A
	- for pressure relief devices of the bursting disc type, three separate samples of the appropriate parts of the refrigeration system are tested and the bursting disc shall operate in the same way for each sample tested (IEC 60335-2-24) 1		N/A
	- electrical pressure relief devices for automatic operation: (IEC 60335-2-24) 30 000		N/A
	- electrical pressure relief devices for manual reset: (IEC 60335-2-24) 300		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	Electrical pressure relief devices comply with IEC 60730-2-6 and with listed additional requirements (IEC 60335-2-24)		N/A
	Requirement for mechanical pressure relief devices (IEC 60335-2-24)		N/A
	Testing of pressure relief devices of the bursting disc type with the appliance if not certified (IEC 60335-2-24).		N/A
	Marking of devices as specified (IEC 60335-2-24)		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		N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D		N/A
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7		N/A
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9		N/A
24.1.5	Appliance couplers comply with IEC 60320-1		N/A
	However, for class II appliances classified higher than IPX0, the appliance couplers comply with IEC 60320-2-3		N/A
	Interconnection couplers comply with IEC 60320-2-2		N/A
24.1.6	Small lamp holders similar to E10 lampholders comply with IEC 60238, the requirements for E10 lampholders being applicable		N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151		N/A
24.1.8	The relevant standard for thermal links is IEC 60691		N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19		N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		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		N/A
24.2	Appliances not fitted with:		—

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	- switches, automatic controls or power supplies in flexible cords		P
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		P
	- thermal cut-outs that can be reset by soldering, unless		P
	the solder has a melting point of at least 230 °C		N/A
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions		N/A
	Appliances for camping or similar use (IEC 60335-2-24):		N/A
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1		N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly		N/A
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load		N/A
	For starting capacitors, the voltage across the capacitors shall not exceed 1.3 times the rated voltage of the capacitor at 1.1xUn (IEC 60335-2-24)		N/A
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V		N/A
	In addition, the motors comply with the requirements of Annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		N/A
	They are supplied with the appliance		N/A
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set		N/A
	For coupling nuts the 96 h test is carried out at elevated temperatures as specified: (IEC 60335-2-24)		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
24.8	Motor running capacitors not causing a hazard in the event of a failure (IEC 60335-2-24)		N/A
	One or more of the following conditions are to be met: (IEC 60335-2-24)		—
	- the capacitors are of class S2 or S3 according to IEC 60252-1		N/A
	- the capacitors are housed within a metallic or ceramic enclosure		N/A
24.101	Lampholders shall be of the insulated type (IEC 60335-2-24)		N/A
24.102	The discharge capacity of the pressure relief device shall be such that it is able to release an adequate amount of refrigerant so that the pressure during the release of the refrigerant does not increase beyond the pressure setting of the pressure relief device even if the compressor is operating (IEC 60335-2-24)		N/A

IEC 60335-2-24			
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
model VLS 096 RF SDD at 15 V DC		8,5	7,4	-12,9%	+20%	
model VLS 096 RF SDD at 28 V DC		3,5	3,9	+11,4%	+20%	
Supplementary information:						

11.8	TABLE: Heating test		P
	Test voltage (V):	14,1 V DC	—
	Ambient (°C):	43	—
Thermocouple locations:		Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
Top of compressor (refrigerator)		Abs. 60,1 °C	Abs. 140 °C
Enclosure of Inverter (refrigerator)		15,4	43
Top of compressor (freezer)		Abs. 63,3 °C	Abs. 140 °C
Enclosure of Inverter (freezer)		17,3	43
EMI filter		5,5	33
Supplementary information:			

11.8	TABLE: Heating test, resistance method					P
	Test voltage (V)	14,1			—	
	Ambient, t1 (°C)	43			—	
	Ambient, t2 (°C)	43			—	
Temperature rise of winding:		R1 (Ω)	R2 (Ω)	Δ T (K)	Max. Δ T (K)	Insulation class
compressor winding at model model VLS 096 RF SDD (freezer)		2,21*	2,33*	Abs: 15,1°C	Abs: 140°C	synthetic
compressor winding at model model VLS 096 RF SDD (refrigerator)		2,22*	2,36*	Abs: 16,81°C	Abs: 140°C	synthetic
Supplementary information: * electronic control compressor used						

24.1	TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity1)	
Compressor (All models)	Secop	BD35K	10-45V DC	IEC/EN 60335-1 IEC/EN 60335-2-24 Annex AA	VDE	
Electronic Control Unit for compressor (All models)	Secop	101N0420	10-45V DC	IEC/EN 60335-1 IEC/EN 60335-2-24 Annex AA	VDE	
Thermostat (VLS 054A SDD VLS 094A SDD VLS 154A SDD VLS 024 SDD VLS 026 RF SDD VLS 056 RF SDD VLS 076 RF SDD VLS 086A RF SDD VLS 096 RF SDD)	Dixell	XR30CH	9-40V 8A	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested in appliance	
Thermostat (VLS 026 RF SDD VLS 056 RF SDD VLS 076 RF SDD VFS 048 SDD)	Ranco	K54	250V, 6(6)A 100E	IEC/EN 60730-2-9	ENEC	
Thermometer solar (All models)	Jorgensen APPLIANCE	8724009128-7020392-03	IP65, -30°C- 50°C	IEC/EN 60335-2-24	Tested in appliance	
Fan motor (VLS 076 RF SDD, VLS 054A SDD, VLS 094A SDD, VLS 154A SDD)	Jamicon	JF0825x1Hx	12VDC, 0.19A	EN 60950	TÜV	

Fan motor (VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD, VFS048 SDD, VLS076 RF SDD, VLS 096 RF SDD)	Jamicon	KF1225a1xR-R	12VDC, 0.3A	IEC/EN 60335-1 IEC/EN 60335-2-80	TÜV
Switch (All models)	Arcoelectric	1350 SERIES	250VAC, 16(6)A, T85	IEC/EN 61058-1	ENEC
Terminal (VFS048 SDD, VLS076 RF SDD)	weco	15.885.202	5 poles, 450VAC, 17.5A, 1.5mm ²	IEC/EN 60998-1	VDE
Connector (female and male) (All models)	Mc4	PV-ADSP4w/z /PV-ADBP4w/z	V-0	IEC 62852	TÜV
Heating cable (VLS 096 RF SDD, VLS 154A SDD, VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD)	Lund og Sørensen SEDES GROUP SRL	Flexible heating Cables PVC	5 W/m, 20 Vdc	EN60335-1 EN 50106	Tested in appliance
Heating cable (VLS 054A SDD, VLS 076 RF SDD VLS 094A SDD)	Lund og Sørensen SEDES GROUP SRL	Flexible Heating Cables PVC	2,5 W/m, 20 Vdc	EN60335-1 EN 50106	Tested in appliance
Safety under temperature Thermostat (VLS 054A SDD VLS 094A SDD VLS 154A SDD VLS 024 SDD VLS 026 RF SDD VLS 056 RF SDD VLS 076 RF SDD)	Dixell	XR10CH	9-40V 8A	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested in appliance

EMS: (VLS 054A SDD VLS 094A SDD VLS 154A SDD VLS 024 SDD VLS 026 RF SDD VLS 056 RF SDD VLS 076 RF SDD VFS 048 SDD VLS 086A RF SDD VLS 096 RF SDD)					
Controller PCB*	Flextrack	E353931	10-36 Vdc	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested in the appliance
Relay	Finder	62.82.9.024	DPDT 16A, coil 24VDC	IEC/EN 61810-1	VDE
Touch panel	Flextrack	100A1-B 0.14	24VDC, 2,5A	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested in the appliance
Battery of touch Panel	Celltech (Samsung)	INR1850-29E	3,65V, 275 0mAh	IEC/EN 62619-1	TÜV
EMI Filter (VLS 086 RF SDD, VLS 096 RF SDD)	EMITECH	ME15SJ29RFD C	75VDC, 15A	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested in the appliance
*EMI Filter alternative (VLS 086 RF SDD, VLS 096 RF SDD)	Schurter	5500.2637.01	125/250 VAC 50/60 Hz	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested in the appliance
Fuse holder (VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD, VLS 054A SDD, VLS 094A SDD, VLS 154A SDD)	Bulgin	FX0430/63	250 VAC, 10 A	IEC/EN 60127-1 IEC/EN 60127-6	VDE 40008844
Fuse 1 (VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD, VLS 054A SDD, VLS 094A SDD, VLS 154A SDD)	RS Pro	UDA / UDA-A	10 A, T, 5x20 mm	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40008022

Fuse 2 (VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD, VLS 054A SDD, VLS 094A SDD, VLS 154A SDD)	ESKA	522.500	10 A, T, 5x20 mm	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40020194
Fuse 3 (VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD, VLS 054A SDD, VLS 094A SDD, VLS 154A SDD)	Little fuse	215 010	10 A, T, 5x20 mm	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40013521
Fuse 4 (VLS 024 SDD, VLS 026 RF SDD, VLS 056 RF SDD, VLS 054A SDD, VLS 094A SDD, VLS 154A SDD)	Shurter	FST 5x20 10A	10 A, T, 5x20 mm	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40011522
Fuse holder (VLS 086 RF SDD, VLS 096 RF SDD)	Shurter	FUS	500 VAC, 16 A	IEC/EN 60127-1 IEC/EN 60127-6	VDE 40044384
Fuse (VLS 086 RF SDD, VLS 096 RF SDD)	Shurter	FST 5x20	16 A, T, 5x20 mm	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40016601
USB charger (All models)	Joytech Products Co., Ltd.	A13-194A-BB3	12/24V in 5V 2,1A out	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested in the appliance

Supplementary information: * new type of component

List of test equipment used:

Measuring equipment	Manufacturer	Type	Inventory No	Next calibration
Power analyzer	Rohde & Schwarz	HMC 8015	9048530	2025-10-02
DMM	HIOKI	DT4256	9063578	2025-04-19
THERMOMETER (DIGITAL)	VOLTCRAFT	THT 650	2786673	2025-08-28
Supplementary information:				

Photo documentation



photo 1



photo 2



photo 3



photo 4



photo 5



photo 6



photo 7

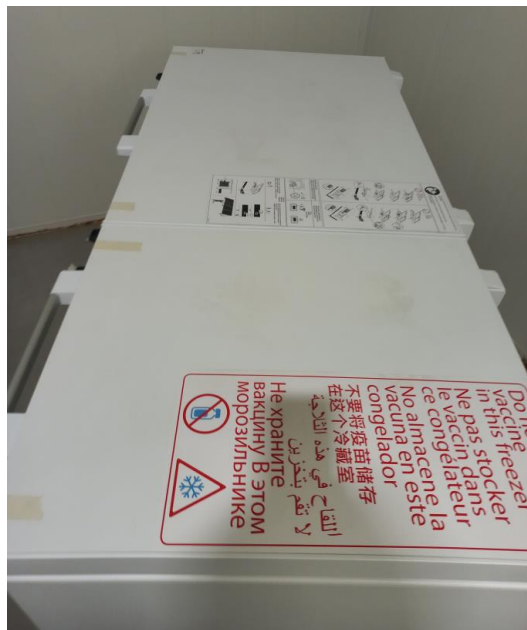


Photo 8



Photo 9

End of test report