

**CHOLLET**

ASSURE VOTRE CONFORT ET VOTRE SÉCURITÉ
DISTRIBUTION D'ÉQUIPEMENTS
AUTOMOBILE ET 2 ROUES

DECLARATION UE DE CONFORMITE

ETS CHOLLET S.A.S.
139 rue Thérèse Planiol
37310 TAUXIGNY
FRANCE

déclare que le(s) modèle(s) de produit décrit ci-après:

GLACIERE ELECTRIQUE 12/230V
commercialisé sous notre référence 14032 – Modèle BL-21123X

est conforme à la (les) législation(s) d'harmonisation de l'Union applicable :

- Directive / Règlement 2014/30/UE
- Directive / Règlement 2014/35/UE
- Directive / Règlement 2011/65/UE
- Règlement 1935/2004

faisant référence aux normes :

- Norme EN 55014-1: 2006+A1:2009+A2:2011
- Norme EN 55014-1:2007
- Norme EN 55014-2:1997+A1:2001+A2:2008
- Norme EN 55014-2:2015
- Norme EN 61000-3-2:2014
- Norme EN 61000-3-3:2013
- Norme EN 60335-1:2012+A11:2014
- Norme EN 60335-2-15:2016
- Norme EN 62233:2008

Fait à : Tauxigny
Le 20 janvier 2023

Nom : ELIE Philippe
Fonction : Responsable qualité

Signature :

ETS CHOLLET S.A.S. - 139 rue Thérèse Planiol – B.P. 38 – 37310 TAUXIGNY - FRANCE
☎ (33) 02 47 91 88 88 - 📠 (33) 02 47 91 59 51 – www.chollet.fr

Date : 02.03.2022
Our ref. : ZTR ZC10
Your ref.: W.B.

Ref : AE Certificate of Conformity EMC

Type of Equipment : Electric Cooler & Warmer
Model Designation : See Certificate
Certificate No. : AE 50534836 0001
Report No. : 14708909 009

Dear Wu Bo,

We herewith confirm that a sample of the above mentioned technical equipment has been tested and was found to be in accordance with the relevant requirements.

Enclosed please find your Certificate of Conformity.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

With kind regards,

Certification Body



Dr.-Ing. T. Keiter

Enclosure

证书的详细资料请登陆www.certipedia.com查阅,或拨打我司客服热线800 999 3668 / 400 883 1300咨询

C E R T I F I C A T E
of Conformity
EC Council Directive 2014/30/EU
Electromagnetic Compatibility



Registration No.: AE 50534836 0001

Report No.: 14708909 009

Holder:

Product: Cooling Box
(Electric Cooler & Warmer)

Identification: BL-104B BL-21105A BL-21123X
BL-21126X BL-21125X BL-21129X

Serial No.: n.a.

Remark: Refer to test report 14708909 009 for details.

Tested acc. to: EN 55014-1:2017
EN 55014-2:2015
EN IEC 61000-3-2:2019
EN 61000-3-3:2013+A1

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with all provisions of Annex I of Council Directive 2014/30/EU. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to the a.m. Directive.

Date 02.03.2022

Certification Body

Dr.-Ing. T. Keiter

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CE The CE marking may only be used if all relevant and effective EC Directives are complied with. **CE**

Prüfbericht-Nr.: Test report no.:	14708909 009	Auftrags-Nr.: Order no.:	180227098	Seite 1 von 2 Page 1 of 2
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2021.11.04	
Auftraggeber: Client:				
Prüfgegenstand: Test item:	Electric Cooler & Warmer			
Bezeichnung / Typ-Nr.: Identification / Type no.:	Refer to page 2.			
Auftrags-Inhalt: Order content:	TÜV Rheinland – EMC Service			
Prüfgrundlage: Test specification:	EN 55014-1:2017 EN 55014-2:2015 EN 61000-3-3:2013+A1 EN IEC 61000-3-2:2019			
Wareneingangsdatum: Date of sample receipt:	2022.02.23			
Prüfmuster-Nr.: Test sample no.:	180227098			
Prüfzeitraum: Testing period:	2022.02.23			
Ort der Prüfung: Place of testing:	TÜV Rheinland / CCIC (Ningbo) Co., Ltd.			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland / CCIC (Ningbo) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:			genehmigt von: authorized by:	
Datum: Date:	2022.02.28		Ausstelldatum: Issue date:	2022.02.28
Stellung / Position:	Tracy Zhang/PE		Stellung / Position:	Feng Liang/TC
Sonstiges / Other:	Refer to page 2 for further information.			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

Prüfbericht - Nr.: 14708909 009

Test Report No.:

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- Model List:

NO.	Model	Rated Input	AC220-240V		DC12V	
			Cooling(W)	Warming(W)	Cooling(W)	Warming(W)
1.	BL-104B	AC 220-240V, 50Hz/DC 12V	58	42	42	36
2.	BL-21105A		54	40	38	33
3.	BL-21123X		55	46	42	34
4.	BL-21126X		55	46	42	34
5.	BL-21125X		55	46	42	34
6.	BL-21129X		55	46	42	34

Other aspects:

1. The case is to add models.
2. In electrical characteristics, added models list above are identical with the previously certified model BL-125B which has been EMC approved in the test reports 14708909 001~008. The differences among them are the volume and in the mechanical aspects. Therefore, no additional test is needed.
3. The samples have been received and checked. According to the contents of product features, no additional test is needed.
4. This report is valid with test reports 14708909 001-008.

-- The END --

Report No.: **180219949b 001**

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Client:

Contact Information:

Identification/
Model No(s): Car refrigerator

Condition at delivery: Test item complete and undamaged.

Sample Receiving date: 2021-12-27

Testing Period: 2021 12-27 to 2022-01-04

Place of testing: Chemical laboratory Ningbo

Test Specification:

Test result:

Customer's requirement:

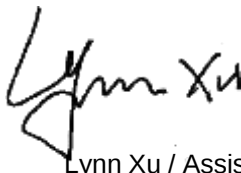
1. According to RoHS (recast): Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU Annex II and its amendment.

PASS

Other information:

Remark: Per client's request, selected items were tested.

For and on behalf of
TÜV Rheinland/CCIC (Ningbo) Co., Ltd.



2022-01-25

Lynn Xu / Assistant Manager

Date

Name/Position

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed.

This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

'Decision Rule' document announced in our website (<https://www.tuv.com/landingpage/en/qm-gcn/>) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.

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Material List:

Item: Car refrigerator

Material No.	Material	Color	Location
A001	Plastic	white	refer to photo
A002	Plastic	white	refer to photo
A003	Plastic	blue	refer to photo
A004	Foam material	white	refer to photo
A005	Foam + adhesive	white	refer to photo
A006	Plastic	white	refer to photo
A007	Plastic	black	refer to photo
A008	Metal	silver	refer to photo
A009	Foam material	black	refer to photo
A010	Plastic	white	refer to photo
A011	Foam material	white	refer to photo
A012	Plastic	black	refer to photo
A013	Magnet	black	refer to photo
A014	Metal	silver	refer to photo
A015	Metal	grey	refer to photo
A016	Plastic + adhesive	silver	refer to photo
A017	Metal	copper	refer to photo
A018	Metal	silver	refer to photo
A019	Metal	silver	refer to photo
A020	Plastic	white	refer to photo
A021	Plastic	black+red	refer to photo
A022	Plastic	red	refer to photo
A023	Solder	silver	refer to photo
A024	PCB board	green	refer to photo
A025	Plastic	red	refer to photo
A026	Plastic	black	refer to photo
A028	Ceramic	white	refer to photo
A029	Metal	grey	refer to photo

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A030	Glue	white	refer to photo
A031	Metal	golden	refer to photo
A034	Plastic	black	refer to photo
A035	Metal	silver	refer to photo
A036	Metal	silver	refer to photo
A037	Solder	silver	refer to photo
A038	Metal	silver	refer to photo
A039	Plastic	black	refer to photo
A040	Metal	silver	refer to photo
A041	PCB board	orange-brown	refer to photo
A042	Electronic components	blue	refer to photo
A043	Electronic components	black	refer to photo
A044	Electronic components	golden	refer to photo
A045	Electronic components	red	refer to photo
A046	Plastic	black	refer to photo
A047	PCB board	green	refer to photo
A049	Electronic components	green	refer to photo
A050	Metal	silver	refer to photo
A051	Plastic + adhesive	yellow	refer to photo
A052	Magnet	black	refer to photo
A053	Plastic	black	refer to photo
A054	Metal	golden	refer to photo
A055	Electronic components	cyan-blue	refer to photo
A056	Electronic components	dark green	refer to photo
A057	Electronic components	black	refer to photo
A058	Electronic components	black	refer to photo
A059	Electronic components	dark green	refer to photo
A060	Electronic components	blue	refer to photo
A061	Electronic components	black	refer to photo
A062	Electronic components	black	refer to photo
A063	Metal	orange-brown	refer to photo
A064	Electronic components	black	refer to photo

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A065	Electronic components	yellow	refer to photo
A066	Metal	silver	refer to photo
A067	Electronic components	black	refer to photo
A068	Electronic components	brown	refer to photo
A072	Solder	silver	refer to photo
A073	PCB board	green	refer to photo
A075	Metal	silver	refer to photo
A076	Metal	silver	refer to photo
A077	Metal	silver	refer to photo
A078	Plastic	white	refer to photo
A079	Plastic	black	refer to photo
A080	Plastic	red	refer to photo
A081	Plastic	black	refer to photo
A082	Metal	silver	refer to photo
A083	Metal	silver	refer to photo
A085	Metal	golden	refer to photo
A086	Plastic	black	refer to photo
A088	Metal	silver	refer to photo
A089	Plastic	black	refer to photo
A090	Metal	golden	refer to photo
A091	Plastic	black	refer to photo
A092	Plastic	black	refer to photo
A093	Ceramic	white	refer to photo
A094	Metal	silver	refer to photo
A095	Metal	golden	refer to photo
A096	Metal	golden	refer to photo
A097	Metal	golden	refer to photo
A098	Plastic	black	refer to photo
A099	Plastic	black	refer to photo
A100	Plastic	black	refer to photo
A101	Plastic	cyan-blue	refer to photo
A102	Plastic	brown	refer to photo

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A103	Metal	golden	refer to photo
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1. Screening Test by XRF spectroscopy

Test Method: Cadmium, Lead, Mercury, Chromium, Bromine
 -- With reference to IEC 62321-3-1:2013

Test Result:

Material No.	Cd	Cr	Pb	Hg	Br
A001	BL	BL	BL	BL	BL
A002	BL	BL	BL	BL	BL
A003	BL	BL	BL	BL	BL
A004	BL	BL	BL	BL	BL
A005	BL	BL	BL	BL	BL
A006	BL	BL	BL	BL	BL
A007	BL	BL	BL	BL	BL
A008	BL	BL	BL	BL	n.a.
A009	BL	BL	BL	BL	BL
A010	BL	BL	BL	BL	BL
A011	BL	BL	BL	BL	BL
A012	BL	BL	BL	BL	d.(*1)
A013	BL	BL	BL	BL	n.a.
A014	BL	BL	BL	BL	n.a.
A015	BL	BL	BL	BL	n.a.
A016	BL	BL	BL	BL	BL
A017	BL	BL	BL	BL	n.a.
A018	BL	d.(*1)	BL	BL	n.a.
A019	BL	d.(*1)	BL	BL	n.a.
A020	BL	BL	BL	BL	BL
A021	BL	BL	BL	BL	BL
A022	BL	BL	BL	BL	BL
A023	BL	BL	BL	BL	n.a.
A024	BL	BL	BL	BL	BL
A025	BL	BL	BL	BL	BL
A026	BL	BL	BL	BL	BL
A028	BL	BL	BL	BL	n.a.
A029	BL	BL	BL	BL	n.a.
A030	BL	BL	BL	BL	BL
A031	BL	BL	BL	BL	n.a.
A034	BL	BL	BL	BL	d.(*1)
A035	BL	BL	BL	BL	n.a.
A036	BL	BL	BL	BL	n.a.
A037	BL	BL	BL	BL	n.a.
A038	BL	BL	BL	BL	n.a.
A039	BL	BL	BL	BL	d.(*1)
A040	BL	BL	BL	BL	n.a.

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A041	BL	BL	BL	BL	d.(*1)
A042	BL	BL	BL	BL	BL
A043	BL	BL	BL	BL	BL
A044	BL	BL	BL	BL	BL
A045	BL	BL	BL	BL	d.(*1)
A046	BL	BL	BL	BL	BL
A047	BL	BL	BL	BL	d.(*1)
A049	BL	BL	BL	BL	BL
A050	BL	BL	BL	BL	n.a.
A051	BL	BL	BL	BL	BL
A052	BL	BL	BL	BL	n.a.
A053	BL	BL	BL	BL	BL
A054	BL	BL	BL	BL	n.a.
A055	BL	BL	BL	BL	BL
A056	BL	BL	BL	BL	BL
A057	BL	BL	BL	BL	d.(*1)
A058	BL	d.(*1)	BL	BL	BL
A059	BL	d.(*1)	BL	BL	BL
A060	BL	BL	BL	BL	BL
A061	BL	BL	BL	BL	d.(*1)
A062	BL	BL	BL	BL	BL
A063	BL	BL	BL	BL	n.a.
A064	BL	BL	BL	BL	BL
A065	BL	BL	BL	BL	d.(*1)
A066	BL	d.(*1)	BL	BL	n.a.
A067	BL	BL	BL	BL	d.(*1)
A068	BL	BL	BL	BL	BL
A072	BL	BL	d.(*1)	BL	n.a.
A073	BL	BL	BL	BL	d.(*1)
A075	BL	BL	BL	BL	n.a.
A076	BL	d.(*1)	BL	BL	n.a.
A077	BL	BL	BL	BL	n.a.
A078	BL	BL	BL	BL	BL
A079	BL	BL	BL	BL	BL
A080	BL	BL	BL	BL	BL
A081	BL	BL	BL	BL	BL
A082	BL	BL	BL	BL	n.a.
A083	BL	BL	BL	BL	n.a.
A085	BL	BL	BL	BL	n.a.
A086	BL	BL	BL	BL	BL
A088	BL	BL	BL	BL	n.a.
A089	BL	BL	BL	BL	BL
A090	BL	BL	d.(*1)	BL	n.a.

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A091	BL	BL	BL	BL	BL
A092	BL	BL	BL	BL	BL
A093	BL	BL	BL	BL	n.a.
A094	BL	BL	BL	BL	n.a.
A095	BL	d.(*1)	BL	BL	n.a.
A096	BL	BL	BL	BL	n.a.
A097	BL	BL	BL	BL	n.a.
A098	BL	BL	BL	BL	BL
A099	BL	BL	BL	BL	BL
A100	BL	BL	BL	BL	BL
A101	BL	BL	BL	BL	BL
A102	BL	BL	BL	BL	BL
A103	BL	BL	BL	BL	n.a.

Abbreviation: Pb = Lead
 Cd = Cadmium
 Hg = Mercury
 Cr = Chromium
 Br = Bromine
 n.a. = Not applicable
 BL = Below limit
 OL = Over limit
 d. = Detected

Remark:

- (*1) The screening result was detected in the inconclusive region or over limits, thus the further wet chemistry tests are suggested.
- (*2) Component(s)/ materials(s) with an area of less than 2 mm x 2 mm will not be selected for testing according to RoHS Directive 2011/65/EU due to technical reason.
 For the test sample does not have detail materials information provided by client, visually identical materials (e.g. wire insulation, solder points, etc.) will be considered as the same material.
 Solder points on a printing circuit board will be examined several times based on optical anomalies or discoloration of the solder point(s) unless the solder point(s) is obviously generated automatically during production.
 All other materials will be sampled and tested at one test point representatively.

XRF Screening limits for different matrices :

Material	Concentration (%)				
	Cd	Cr	Pb	Hg	Br
Polymeric	BL≤0.006<X<0.014≤ OL	BL≤0.064<X	BL≤0.067<X<0.133≤ OL	BL≤0.066<X< 0.134≤OL	BL≤0.029<X
Metallic	BL≤0.006<X<0.014≤ OL	BL≤0.064<X	BL≤0.067<X<0.133≤ OL	BL≤0.066<X< 0.134≤OL	n.a.
Composite materials	BL≤0.004<X<0.016≤ OL	BL≤0.044<X	BL≤0.047<X<0.153≤ OL	BL≤0.046<X< 0.154≤OL	BL≤0.024<X

Remark: The symbol "X" marks the region where further investigation is necessary.

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2. Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)

Test Method: Total Cadmium, Lead, Mercury, Chromium
 - Ref. to IEC 62321-4:2013+AMD1:2017 and IEC 62321-5:2013

Chromium (VI)
 - For Metal material - Ref. to IEC 62321-7-1:2015
 - For Plastic or Electronic material - Ref. to IEC 62321-7-2:2017
 - For Leather material - Ref. to EN ISO 17075-1:2017

PBBs, PBDEs - Ref. to IEC 62321-6:2015

Test Result:

	Cd	Cr(VI)	Pb	Hg	PBBs (*)	PBDEs (*)
Maximum Permissible Limit (%)	0.01	0.1	0.1	0.1	0.1	0.1

Material No.	(%)					
	Cd	Cr^{VI}	Pb	Hg	PBBs (*)	PBDEs (*)
	RL (%)					
	0.001	0.001	0.001	0.001	0.01	0.01
A012	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A034	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A039	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A041	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A045	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A047	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A057	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A061	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A065	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A067	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A072	n.a.	n.a.	0.070	n.a.	n.a.	n.a.
A073	n.a.	n.a.	n.a.	n.a.	< RL	< RL
A090	n.a.	n.a.	3.03(*3)	n.a.	n.a.	n.a.

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Material No.	Hexavalent Chromium Content ($\mu\text{g}/\text{cm}^2$) (*1) RL: 0.10 $\mu\text{g}/\text{cm}^2$
A018	Negative
A019	Negative
A066	Negative
A076	Negative
A095	Negative
Material No.	Hexavalent Chromium Content (%) (*2) RL: 0.01%
A058	< RL
A059	< RL

Abbreviation:

Pb	= Lead
Cd	= Cadmium
Hg	= Mercury
Cr	= Chromium
Cr (VI)	= Chromium (VI)
PBBs	= Total Polybrominated Biphenyls
PBDEs	= Total Polybrominated Diphenyl Ethers
<	= Less than
RL	= Reporting Limit
n.a.	= Not Applicable
^	= The total Chromium have been determined
%	= Percentage

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Remark:

(*) The reporting limit for each individual PBBs and individual PBDEs are :

Reporting Limit (%)		
PBBs	Bromobiphenyl	0.01
	Dibromobiphenyl	0.01
	Tribromobiphenyl	0.01
	Tetrabromobiphenyl	0.01
	Pentabromobiphenyl	0.01
	Hexabromobiphenyl	0.01
	Heptabromobiphenyl	0.01
	Octabromobiphenyl	0.01
	Nonabromobiphenyl	0.01
	Decabromobiphenyl	0.01
PBDEs	Bromodiphenylether	0.01
	Dibromodiphenyl ether	0.01
	Tribromodiphenyl ether	0.01
	Tetrabromodiphenyl ether	0.01
	Pentabromodiphenyl ether	0.01
	Hexabromodiphenyl ether	0.01
	Heptabromodiphenyl ether	0.01
	Octabromodiphenyl ether	0.01
	Nonabromodiphenyl ether	0.01
	Decabromodiphenyl ether	0.01

(*1) The total chromium content in Metal sample was found to be exceeded the maximum permissible limit (0.1%). Thus, the Chromium (VI) content in surface layer have been confirmed with reference to IEC 62321-7-1:2015 Annex.

	Chromium (VI) concentration	Qualitative result
Negative	$<0.1\mu\text{g}/\text{cm}^2$	The sample is negative (-ve) for Cr(VI). The Cr(VI) concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating
Inconclusive	$\geq 0.1\mu\text{g}/\text{cm}^2$ and $\leq 0.13\mu\text{g}/\text{cm}^2$	The result is considered to be inconclusive. Unavoidable coating variations may influence the determination. Recommendation: if additional samples are available, perform a total of 3 trials to increase sampling surface area. Use the averaged result of the 3 trials for the final determination.
Positive	$>0.13\mu\text{g}/\text{cm}^2$	The sample is positive (+ve) for Cr(VI). Concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

(*2) The total chromium content in plastic sample or electronic sample was found to be exceeded the maximum permissible limit (0.1%). Thus, the Chromium (VI) content have been confirmed with reference to IEC 62321-7-2:2017

(*3) According to Annex III of directive 2011/65/EU, Lead as an alloying element in copper alloy containing up to 4 % lead by weight.

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3. BBP, DBP, DEHP, DIBP content

Test Method: IEC 62321-8:2017

Test Result:

	BBP	DBP	DEHP	DIBP
Maximum permissible Limit (%)	0.1	0.1	0.1	0.1

Test No.	Material No.	RL (%)			
		BBP	DBP	DEHP	DIBP
		RL (%)			
		0.005	0.005	0.005	0.005
T001	A001 + A002 + A003 + A006 + A007	< RL	< RL	< RL	< RL
T002	A010 + A012 + A034 + A053 + A079	< RL	< RL	< RL	< RL
T003	A020 + A039 + A041 + A078 + A080	< RL	< RL	< RL	< RL
T004	A004 + A009 + A011 + A005	< RL	< RL	< RL	< RL
T005	A024 + A047 + A073	< RL	< RL	< RL	< RL
T006	A021	< RL	< RL	0.011	< RL
T007	A022	< RL	< RL	< RL	< RL
T008	A025	< RL	< RL	< RL	< RL
T009	A026	< RL	< RL	0.038	< RL
T010	A099	< RL	< RL	< RL	< RL
T011	A101	< RL	< RL	< RL	< RL
T012	A102	< RL	< RL	< RL	< RL
T013	A086	< RL	< RL	< RL	< RL
T014	A098	< RL	< RL	< RL	< RL
T015	A100	< RL	< RL	< RL	< RL
T016	A081	< RL	< RL	< RL	< RL
T017	A089	< RL	< RL	< RL	< RL
T018	A092	< RL	< RL	< RL	< RL
T019	A091	< RL	< RL	< RL	< RL

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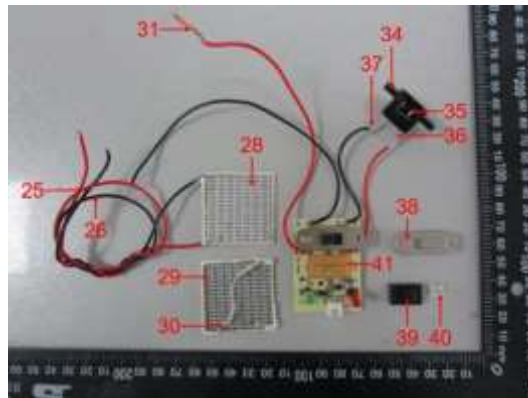
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Abbreviation: BBP= Benzylbutyl phthalate
 DBP= Dibutyl phthalate
 DEHP= Bis(2-ethylhexyl) phthalate
 DIBP= Diisobutyl phthalate
 < = less than
 RL = Reporting Limit
 N.A. = Not Applicable
 %= percentage

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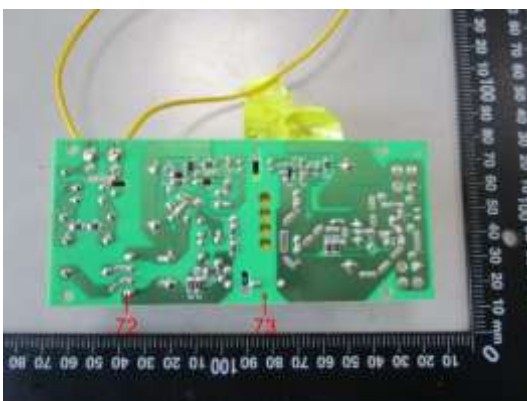
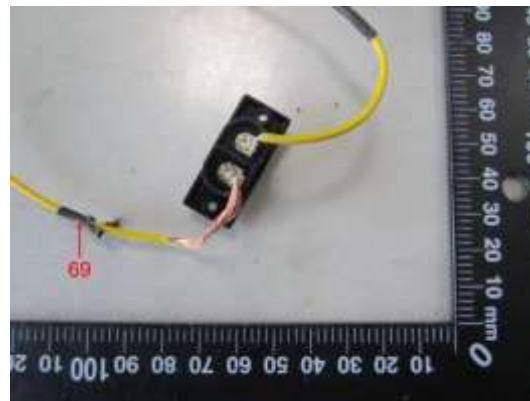
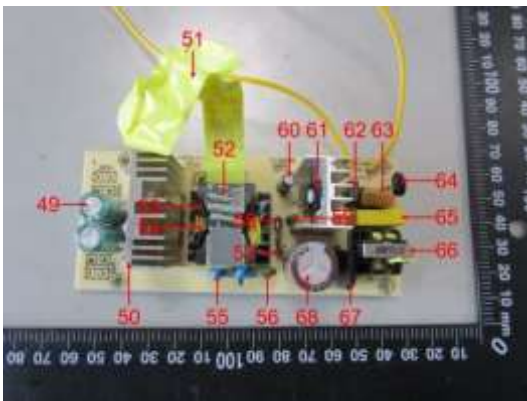
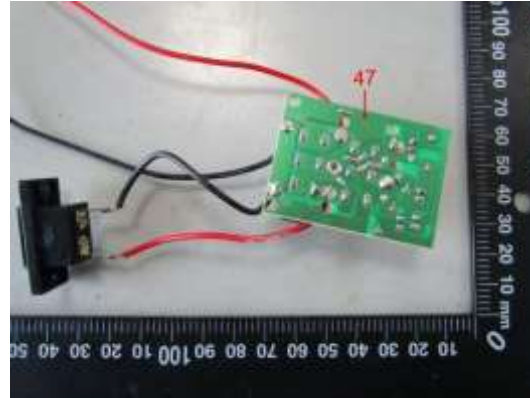
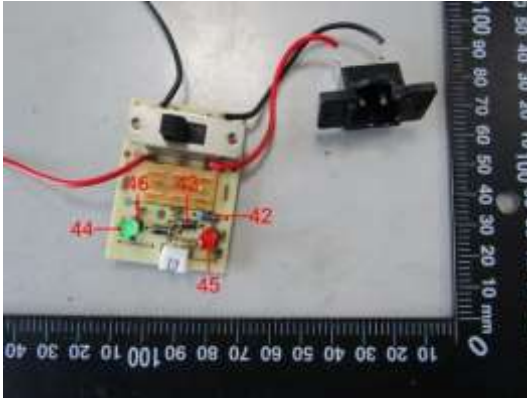
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- END -



General Terms and Conditions of Business of TÜV Rheinland in Greater China

- 1. Scope**
- 1.1 These General Terms and Conditions of Business of TÜV Rheinland in Greater China ("GTBCB") is made between the client and one or more member entities of TÜV Rheinland in Greater China as applicable as the case may be ("TÜV Rheinland"). The Greater China hereof refers to Mainland China, Hong Kong and Taiwan. The client hereof includes:
- (i) a natural person capable to form legally binding contracts under the applicable laws who conducts the contract not for the purpose of a daily use;
- (ii) the incorporated or unincorporated entity duly organized, validly existing and capable to form legally binding contracts under the applicable law.

- 1.2 The following terms and conditions apply to agreed services including consultancy services, information, deliveries and similar services as well as ancillary services and other secondary obligations provided within the scope of contract performance.
- 1.3 Any standard terms and conditions of the client of any nature that shall not apply and shall hereby be expressly excluded. No standard terms and conditions of the client shall form part of the contract even if TÜV Rheinland does not explicitly object to them.
- 1.4 In the context of an ongoing business relationship with the client, this GTBCB shall also apply to future contracts with the client without TÜV Rheinland having to refer to them separately in each individual case.

- 2. Quotations**
- Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by TÜV Rheinland without notice prior to its acceptance and confirmation by the other party.

- 3. Coming into effect and duration of contracts**
- 3.1 The contract shall come into effect for the agreed terms upon the quotation letter of TÜV Rheinland or a separate contractual document being signed by both contracting parties, or upon the works requested by the client being carried out by TÜV Rheinland, if the client instructs TÜV Rheinland without receiving a quotation from TÜV Rheinland (quotation). TÜV Rheinland is, in its sole discretion, entitled to accept the order by giving written notice of such acceptance (including notice sent via electronic means) or by performing the requested services.
- 3.2 The contract term starts upon the coming into effect of the contract in accordance with article 3.1 and shall continue for the term agreed in the contract.
- 3.3 If the contract provides for an extension of the contract term, the contract term will be extended by the term provided for in the contract unless terminated in writing by either party with a six-week notice prior to the end of the contractual term.

- 4. Scope of services**
- 4.1 The scope and type of the services to be provided by TÜV Rheinland shall be specified in the contractually agreed service scope of TÜV Rheinland by both parties. If no such separate service scope of TÜV Rheinland exists, then the written confirmation of order by TÜV Rheinland shall be decisive for the service to be provided.
- 4.2 The agreed services shall be performed in compliance with the regulations in force at the time the contract is entered into.
- 4.3 TÜV Rheinland is entitled to determine, in its sole discretion, the method and nature of the assessment unless otherwise agreed in writing or if mandatory provisions require a specific procedure to be followed.
- 4.4 On execution of the work there shall be no simultaneous assumption of any guarantee of the correctness (proper quality) and working order of either tested or examined parts nor of the installation as a whole and its upstream and/or downstream processes, organizations, use and application in accordance with regulations, nor of the systems on which the installation is based. In particular, TÜV Rheinland shall assume no responsibility for the construction, selection of materials and assembly of the system, nor for their use and application in accordance with regulations, unless these questions are expressly covered by the contract.
- 4.5 In the case of inspection work, TÜV Rheinland shall not be responsible for the accuracy or checking of the safety programmes or safety regulations on which the inspections are based, unless otherwise expressly agreed in writing.
- 4.6 If mandatory legal regulations and standards or official requirements for the agreed service scope change after conclusion of the contract, with a written notice by the client, TÜV Rheinland shall be entitled to additional remuneration for resulting additional expenses.
- 4.7 The services to be provided by TÜV Rheinland under the contract are agreed exclusively with the client. A contract of third parties with the services of TÜV Rheinland, as well as making available of and justifying confidence in the work results (test reports, test results, expert reports, etc.) is not part of the agreed services. This also applies if the client passes on work results - in full or in extracts - to third parties in accordance with clause 11.4.

- 5. Performance periods/dates**
- 5.1 The contractually agreed periods/dates of performance are based on estimates of the work involved which are prepared in line with the details provided by the client. They shall only be binding if they are confirmed as binding by TÜV Rheinland in writing.
- 5.2 If binding periods of performance have been agreed, these periods shall not commence until the client has submitted all required documents to TÜV Rheinland.
- 5.3 Articles 5.1 and 5.2 also apply, even without express approval by the client, to all extensions of agreed periods/dates of performance not caused by TÜV Rheinland.
- 5.4 TÜV Rheinland is not responsible for a delay in performance, in particular if the client has not fulfilled his duties to cooperate in accordance with clause 6.1 or has not done so in time and, in particular, has not provided TÜV Rheinland with all documents and information required for the performance of the service as specified in the contract.
- 5.5 If the performance of TÜV Rheinland is delayed due to unforeseeable circumstances such as force majeure, strikes, business disruptions, governmental regulations, transport obstacles, etc., TÜV Rheinland is entitled to postpone performance for a reasonable period of time which corresponds at least to the duration of the hindrance plus any time period which may be required to resume performance.

- 6. The client's obligation to cooperate**
- 6.1 The client shall guarantee that all cooperation required on its part, its agents or third parties will be provided in good time and at no cost to TÜV Rheinland.
- 6.2 Design documents, specimens, auxiliary staff, etc. necessary for performance of the services shall be made available free of charge by the client. Moreover, collaborative activity of the client must be undertaken in accordance with legal provisions, standards, safety regulations and accident prevention instructions. And the client represents and warrants that:
- a) it has required statutory qualifications;
- b) the product, service or management system to be certified complies with applicable laws and regulations; and
- c) it doesn't have any illegal and dishonest behaviours or is not included in the list of Enterprises with Serious Illegal and Dishonest Acts of People's Republic of China.
- If the client breaches the aforesaid representations and warranties, TÜV Rheinland is entitled to i) immediately terminate the contract/order without prior notice; and ii) withdraw the issued testing certificates if any.
- 6.3 The client shall bear any additional cost incurred on account of work having to be redone or being delayed as a result of late, incorrect or incomplete information provided by or lack of proper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV Rheinland shall be entitled to charge extra fees for such additional expense.

- 7. Prices**
- 7.1 If the scope of performance is not laid down in writing when the order is placed, invoicing shall be based on costs actually incurred. If no price is agreed in writing, invoicing shall be made in accordance with the price list of TÜV Rheinland valid at the time of performance.
- 7.2 Unless otherwise agreed, work shall be invoiced according to the progress of the work.
- 7.3 If the execution of an order extends over more than one month and the value of the contract or the agreed fixed price exceeds €2,500.00 or equivalent value in local currency, TÜV Rheinland may demand payments on account or in instalments.
- 8. Payment terms**
- 8.1 All invoice amounts shall be due for payment without deduction on receipt of the invoice. No discounts and rebates shall be granted.
- 8.2 Payments shall be made to the bank account of TÜV Rheinland as indicated on the invoice, stating the invoice and client numbers.
- 8.3 In cases of default of payment, TÜV Rheinland shall be entitled to claim default interest at the applicable short term loan interest rate publicly announced by a reputable commercial bank in the country where TÜV Rheinland is located. At the same time, TÜV Rheinland reserves the right to claim further damages.
- 8.4 Should the client default in payment of the invoice despite being granted a reasonable grace period, TÜV Rheinland shall be entitled to cancel or suspend the contract, withdraw the certificate, claim damages for non-performance and refuse to continue performance of the contract.
- 8.5 The provisions set forth in article 8.4 shall also apply in cases involving returned cheques, cessation of payment, commencement of insolvency proceedings against the client's assets or cases in which the commencement of insolvency proceedings has been dismissed due to lack of assets.
- 8.6 Objections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of receipt of the invoice.
- 8.7 TÜV Rheinland shall be entitled to demand appropriate advance payments.
- 8.8 TÜV Rheinland shall be entitled to raise its fees at the beginning of a month if overheads and/or purchase costs have increased. In that case, TÜV Rheinland shall notify the client in writing of the rise in fees. This notification shall be issued one month prior to the date on which the rise in fees shall come into effect (period of notice of changes in fees). If the rise in fees remains under 5% per contractual year, the client shall not have the right to terminate the contract. If the rise in fees exceeds 5% per contractual year, the client shall be entitled to terminate the contract by the end of the period of notice of changes in fees. If the contract is not terminated, the changed fees shall be deemed to have been agreed upon by the time of the expiry of the notice period.
- 8.9 Only legally established and undisputed claims may be offset against claims by TÜV Rheinland.
- 8.10 TÜV Rheinland shall have the right at all times to set off any amount due or payable by the client, including but not limited to claims for contract, without any fees paid by the client under any contracts, agreement and/or orders/quotations reached with TÜV Rheinland.

- 9. Acceptance of work**
- 9.1 Any part of the work result ordered which is complete in itself may be presented by TÜV Rheinland for acceptance as an instalment. The client shall be obliged to accept it immediately.
- 9.2 If acceptance is required or contractually agreed in an individual case, this shall be deemed to have taken place two (2) weeks after completion and handover of the work, unless the client refuses acceptance within this period stating at least one fundamental breach of contract by TÜV Rheinland.
- 9.3 The client is not entitled to refuse acceptance due to insignificant breach of contract by TÜV Rheinland.
- 9.4 If acceptance is excluded according to the nature of the work performance of TÜV Rheinland, the completion of the work shall take its place.
- 9.5 During the Follow-After stage, if the client was unable to make use of the time windows provided for within the scope of a certification procedure for TÜV Rheinland and the certificate is therefore to be withdrawn (e.g. as a consequence of surveillance audits), TÜV Rheinland is entitled to immediately charge a lump-sum compensation of 10% of the order amount as compensation for expenses. The client reserves the right to prove that the client has incurred no damage whatsoever or only a considerably lower damage than the above lump sum.
- 9.6 Insofar as the client has undertaken in the contract to accept services, TÜV Rheinland shall also be entitled to charge lump-sum damages in the amount of 10% of the order amount as compensation for expenses if the service is not called within one year after the order has been placed. The client reserves the right to prove that the TÜV Rheinland has incurred no damage whatsoever or only a considerably lower damage than the above mentioned lump sum.

- 10. Confidentiality**
- 10.1 For the purpose of these terms and conditions, "confidential information" means all know-how, trade secrets, documents, images, drawings, expertise, information, data, test results, reports, samples, project documents, pricing and financial information, customer and supplier information, and marketing strategies and materials, tangible or intangible, disclosed by TÜV Rheinland and the client to the other Party (the "disclosing party") to the other Party (the "receiving party"), in writing or orally, in printed or electronic format. Confidential information is expressly not the data and know-how created, compiled or otherwise obtained by TÜV Rheinland (non-personal and not proprietary to the client) within the scope of the provision of services by TÜV Rheinland. TÜV Rheinland is entitled to store, use, further develop and pass on the data obtained in connection with the provision of services for the purposes of developing new services, improving services and analysing the provision of services.10.2 The disclosing party shall mark all confidential information disclosed in written form before departing after passing it onto the receiving party. The same applies to confidential information transmitted by e-mail. If confidential information is disclosed orally, the receiving party shall be appropriately informed in advance and the disclosing party shall confirm in writing the confidentiality nature of the information within five working days of oral disclosure. Where the disclosing party fails to do so within the stipulated period, the receiving party shall not take any confidentiality obligations hereunder towards such information. The client shall avoid using any third party platform and/or system (e.g. Wechat, Dingding, etc. Unauthorized by TÜV Rheinland) to send any confidential information to TÜV Rheinland. If instead, the client shall use the email address of TÜV Rheinland employees through its company email. If the client suffers from any losses or damages due to their theft or leakages to be caused by the adoption of any unauthorized confidential information sharing methods mentioned above, TÜV Rheinland shall be waived for any compensation liabilities.
- 10.3 All confidential information which the disclosing party transmits or otherwise discloses to the receiving party and which is created during performance of work by TÜV Rheinland:
- a) may only be used by the receiving party for the purposes of performing the contract, unless expressly otherwise agreed in writing by the disclosing party;
- b) may not be copied, distributed, published or otherwise disclosed by the receiving party, unless this is necessary for fulfilling the purpose of the contract or TÜV Rheinland is required to pass on confidential information, inspection reports or documentation to the government authorities, judicial court, accreditation bodies or third parties that are involved in the performance of the contract;
- c) must be treated by the receiving party with the same level of confidentiality as the receiving party uses to protect its own confidential information, but never with a lesser level of confidentiality than that which is reasonably required.

- 10.4 The receiving party may disclose any confidential information received from the disclosing party only to those of its employees who need this information to perform the services required for the contract. The receiving party undertakes to obligate these employees to observe the same level of secrecy as set forth in this confidentiality clause.
- 10.5 Information for which the receiving party can furnish proof that:
- a) it was generally known at the time of disclosure or has become general knowledge without violation of this confidentiality clause by the receiving party; or
- b) it was disclosed to the receiving party by a third party entitled to disclose this information; or
- c) the receiving party already possessed this information prior to disclosure by the disclosing party; or
- d) the receiving party developed it itself, irrespective of disclosure by the disclosing party, shall not be deemed to constitute "confidential information" as defined in this confidentiality clause.
- 10.6 All confidential information shall remain the property of the disclosing party. The receiving party hereby agrees to immediately (i) return all confidential information, including all copies, to the disclosing party, and/or (ii) on request by the disclosing party, to destroy all confidential information including all copies, and confirm the destruction of this confidential information to the disclosing party in writing, at any time if so requested by the disclosing party but at the latest and without special request after termination or expiry of the contract. This obligation to include reports and certificates prepared for the client solely for the purpose of fulfilling the obligations under the contract, which shall remain with the client. However, TÜV Rheinland is entitled to make file copies of such reports/certificates and confidential information for the purpose of preparing these reports and certificates in order to evidence the correctness of its results and for general documentation purposes required by laws, regulations and the requirements of working procedures of TÜV Rheinland in each individual case.

- 10.7 From the start of the contract and for a period of three years after termination or expiry of the contract, the receiving party shall maintain strict secrecy of all confidential information and shall not disclose this information to any third parties or use it for itself.
- 11. Copyrights and rights of use, publications**
- 11.1 TÜV Rheinland shall retain all exclusive copyrights in the reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared by TÜV Rheinland, unless otherwise agreed by the parties in a separate agreement. As the owner of the copyrights, TÜV Rheinland is free to grant others the right to use the work results for individual or all types of use ("right of use")
- 11.2 The client receives a simple, unlimited, non-transferable, non-sublicensable right of use to the contents of the work results produced within the scope of the contract for the purpose of preparing the parties in a separate agreement. The client may only use such reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared within the scope of the contract for contractually agreed purposes.
- 11.3 The transfer of right of use of the generated work results regulated in clause 11.2. of the GTBCB is subject to full payment of the remuneration agreed in favour of TÜV Rheinland.
- 11.4 The client may use work results only complete and unshortened. The client may only pass on the work results in full unless TÜV Rheinland has given its prior written consent to the partial passing on of work results.
- 11.5 Any publication or duplication of the work results for advertising purposes or any further use of the work results beyond the scope regulated in clause 11.2 needs the prior written approval of TÜV Rheinland in each individual case.
- 11.6 TÜV Rheinland may revoke a once given approval according to clause 11.5 at any time without stating reasons. In this case, the client is obliged to stop the transfer of the work results immediately at his own expense and, as far as possible, to withdraw publications.
- 11.7 The consent of TÜV Rheinland to publication or duplication of the work results does not entitle the client to use the corporate logo, corporate design or test/certification mark of TÜV Rheinland.

- 12. Liability of TÜV Rheinland**
- 12.1 Irrespective of the legal basis, to the fullest extent permitted by applicable law, in the event of a breach of contractual obligations or tort, the liability of TÜV Rheinland for all damages, losses and reimbursement of expenses caused by TÜV Rheinland, its legal representatives and/or employees shall be limited to: (i) in the case of a contract with a fixed overall fee, three times the overall fee for the entire contract; (ii) in the case of a contract for annually recurring services, the agreed annual fee; (iii) in the case of a contract expressly charged on a time and material basis, a maximum of 20,000 Euro or equivalent amount in local currency; and (iv) in the case of a framework agreement that provides for the possibility of placing individual orders, three times of the fee for the individual order under which the damages or losses have occurred. Notwithstanding the above, in the event that the total and accumulated liability calculated according to the foregoing provisions exceeds 2.5 Million Euro or equivalent amount in local currency, the total and accumulated liability of TÜV Rheinland shall be only limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in local currency.
- 12.2 The limitation of liability according to article 12.1 above shall not apply to damages and/or losses caused by malice, intent or gross negligence on the part of TÜV Rheinland or its vicarious agents. Such limitation shall not apply to damages for a person's death, physical injury or illness.
- 12.3 In cases involving a fundamental breach of contract, TÜV Rheinland will be liable even where minor negligence is involved. For this purpose, a "fundamental breach" means a breach of contract which, in its nature, the performance of which permits the due performance of the contract. Any claim for damages for a fundamental breach of contract shall be limited to the amount of damages reasonably foreseen as a possible consequence of such breach of contract at the time of the breach (reasonably foreseeable damages), unless any of the circumstances described in article 12.4 applies.
- 12.4 TÜV Rheinland shall not be liable for the acts of the personnel made available by the client to support TÜV Rheinland in the performance of its services under the contract, unless such personnel made available is regarded as "vicarious agent of TÜV Rheinland" if TÜV Rheinland is not liable for the acts of the personnel made available by the client under the foregoing provision. The client shall indemnify TÜV Rheinland against any claims made by third parties arising from or in connection with such personnel's acts.
- 12.5 Unless otherwise contractually agreed in writing, TÜV Rheinland shall only be liable under the contract to the client.
- 12.6 The limitation periods for claims for damages shall be based on statutory provisions.
- 12.7 None of the provisions of this article 12 changes the burden of proof to the disadvantage of the client.

- 13. Export control**
- 13.1 When passing on the services provided by TÜV Rheinland or parts thereof to third parties in Greater China or other regions, the client must comply with the respectively applicable regulations of national and international export control law.
- 13.2 The performance of a contract with the client is subject to the proviso that there are no obstacles to performance due to national or international foreign trade legislations or embargos and/or sanctions. In the event of a violation, TÜV Rheinland shall be entitled to terminate the contract with immediate effect and the client shall compensate for the losses incurred thereof by TÜV Rheinland.

- 14. Data protection notice**
- TÜV Rheinland processes personal data of the client for the purpose of fulfilling this contract. In addition, TÜV Rheinland also processes the data for other legal purposes in accordance with the relevant legal basis. The personal data of the client will only be disclosed to other natural or legal persons if the legal requirements are met. This also applies to transfers to third countries. The personal data will be deleted as soon as there is a corresponding reason for deletion arises. Data subjects may exercise the following rights: right of information, right of rectification, right of deletion, right of processing limitation, right of objection, right of data transferability. In addition, persons concerned by the data processing have the right to revoke their consent at any time with effect for the future, as well as the right to file a complaint with the competent data protection supervisory authority. For further details on the processing of personal data by TÜV Rheinland as the person responsible or contact processor, please refer to the respective data protection notice. You can contact the Group Data Protection Officer of TÜV Rheinland by e-mail at datsenschutz@de.tuv.com or by post at the following address: TÜV Rheinland AG, c/o Group Data Protection Officer, Am Grauen Stein, 51105 Cologne, Germany.

- 15. Test materials/samples: transport risk and storage**
- 15.1 The risk and costs for freight and transport of documents or test materials/samples to and from TÜV Rheinland as well as the costs of necessary disposal measures shall be borne by the client. TÜV Rheinland will be only liable for the direct loss of test materials/samples in the laboratories or warehouses of TÜV Rheinland only in case of gross negligence.
- 15.2 Any destroyed and otherwise worthless test materials/samples will be disposed of by TÜV Rheinland for the client at the expense of the client, unless otherwise agreed.
- 15.3 Undamaged test materials/samples shall be stored by TÜV Rheinland for four (4) weeks after completion of the test. If a longer storage period is desired, TÜV Rheinland charges an appropriate storage fee.
- 15.4 After the expiry of the 4 weeks or any longer period agreed upon, the test materials/samples will be disposed of by TÜV Rheinland for the client for a fee in accordance with clause 15.2.

- 15.5 If test materials/samples or documentations are given to the client to be placed in storage at their premises, the test materials/samples or documentations must be made available to TÜV Rheinland upon request promptly and free of charge, if the client, in response to such a request, is incapable of making available the test materials/samples and/or documentation, any liability claims for material and pecuniary damage resulting from the respective testing and certification that is brought forward by the client against TÜV Rheinland shall be voided.

- 16. Termination of the contract**
- 16.1 Notwithstanding clause 3.3 of the GTBCB, TÜV Rheinland and the client are entitled to terminate the contract in its entirety or, in the case of services combined in one contract, each of the combined parts of the contract individually and independently of the continuation of the remaining services with six (6) months' notice to the end of the contractually agreed term. The notice period shall be shortened to six (6) weeks in case TÜV Rheinland is prevented from performing the services due to a loss or a suspension of its accreditation or notification.
- 16.2 For good cause, TÜV Rheinland may consider giving a written notice to the client to terminate the contract which includes but not limited to the following:
- a) the client does not immediately notify TÜV Rheinland of changes in the conditions within the company which are relevant for certification or signs of such changes;
- b) the client misuses the certificate or certification mark or uses it in violation of the contract;
- c) in the event of several consecutive delays in payment (at least three times);
- d) a substantial deterioration of the financial circumstances of the client occurs and as a result the payment claims of TÜV Rheinland under the contract are considerably endangered and TÜV Rheinland cannot reasonably be expected to continue the contractual relationship;
- e) in the event of any serious misrepresentation, be it by intentional fraud or grossly negligent behavior of the managers, employees or agents of the client;
- f) if TÜV Rheinland, for reasons beyond its control, is temporarily or finally not able or entitled to continue or finalize the performance of the service, e.g. in case of force majeure, government interference, sanctions, loss of accreditation or notification, or other.

- 16.3 In the event of termination with written notice by TÜV Rheinland for good cause, TÜV Rheinland shall be entitled to a lump-sum damages against the client if the conditions of a claim for damages exist. In this case, the client shall also owe 15% of the remuneration to be paid until the end of the fixed contract term as lump-sum compensation. The client reserves the right to prove that there is no damage or a considerably lower damage. TÜV Rheinland reserves the right to prove a considerably higher damage in individual cases.
- 16.4 TÜV Rheinland is also entitled to terminate the contract with written notice if the client has not been able to make use of the time windows for auditing service provision provided by TÜV Rheinland within the scope of a certification procedure and the certificate therefore has to be withdrawn (for example during the performance of monitoring audits). Clause 16.3 applies accordingly.

- 17. Force Majeure**
- 17.1 "Force Majeure" means the occurrence of an event or circumstance that prevents or impedes a Party from performing one or more of its contractual obligations under the contract, if and to the extent that that Party proves: (a) that such impediment is beyond its reasonable control; and (b) that it could not reasonably have been foreseen at the time of the conclusion of the contract; and (c) that the effects of the impediment could not reasonably have been avoided or overcome by the affected Party.
- 17.2 In the absence of proof to the contrary, the following events affecting a Party shall be presumed to fulfil conditions (a) and (b) under paragraph 1.1 of this Clause: (i) war (whether declared or not), hostilities, invasion, act of foreign enemies, extensive military mobilization; (ii) civil war, riot, rebellion and revolution, military or usurped power, insurrection, act of terrorism, sabotage or piracy; (iii) currency and trade restriction, embargo, sanction; (iv) act of authority whether lawful or unlawful, compliance with any law or governmental order, expropriation, seizure of works, requisition, nationalization; (v) plague, epidemic, natural disaster or extreme natural event; (vi) explosion, fire, destruction of equipment, prolonged breakdown of transport, telecommunication, information system or energy; (vii) general labor disturbance such as boycott, strike and lock-out, go-slow, occupation of factories and premises.

- 17.3 The Party successfully invoking this Clause is relieved from its duty to perform its obligations under the contract and from any liability in damages or from any other contractual remedy for breach of contract, from the time at which the impediment causes inability to perform, provided that the notice thereof is given without delay. If notice thereof is not given without delay, the relief is effective from the time at which notice thereof reaches the other Party. Where the effect of the impediment or event invoked is temporary, the above consequences shall apply only as long as the impediment invoked impedes performance by the affected Party. Where the duration of the impediment invoked has the effect of substantially depriving the contracting Parties of what they were reasonably entitled to expect under the contract, either Party has the right to terminate the contract by notification within a reasonable period to the other Party. Unless otherwise agreed, the Parties expressly agree that the contract may be terminated by either Party if the duration of the impediment exceeds 120 days.

- 18. Hardship**
- 18.1 The Parties are bound to perform their contractual duties even if events have rendered performance more onerous than could reasonably have been anticipated at the time of the conclusion of the contract.
- 18.2 Notwithstanding paragraph 1 of this Clause, where a Party proves that:
- (a) the continued performance of its contractual duties would become excessively onerous due to an event beyond its reasonable control which it could not reasonably have been expected to have taken into account at the time of the conclusion of the contract; and that
- (b) it could not reasonably have avoided or overcome the event or its consequences, the Parties are bound, within a reasonable time to renegotiate the contract under this Clause, to negotiate alternative contractual terms which reasonably allow to overcome the consequences of the event.
- 18.3 Where Clause 18.2 applies, but where the Parties have been unable to agree alternative contractual terms as provided in that paragraph, the Party invoking this Clause is entitled to terminate the contract, but cannot request adaptation by the judge or arbitrator without the agreement of the other Party.

- 19. Partial invalidity, written form, place of jurisdiction and dispute resolution**
- 19.1 All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 19.1.
- 19.2 Should one or several of the provisions under the contract and/or these terms and conditions be or become ineffective, the contracting parties shall replace the invalid provision with a legally valid provision that comes closest to the content of the invalid provision in legal and commercial terms.
- 19.3 Unless otherwise stipulated in the contract, the governing law of the contract and these terms and conditions shall be chosen following the rules as below:
- a) if TÜV Rheinland in question is legally registered and existing in the People's Republic of China, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of the People's Republic of China.
- b) if TÜV Rheinland in question is legally registered and existing in Taiwan, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Taiwan.
- c) if TÜV Rheinland in question is legally registered and existing in Hong Kong, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Hong Kong.
- 19.4 Any dispute in connection with the contract and these terms and conditions or the execution thereof shall be settled friendly through negotiations.
- Unless otherwise stipulated in the contract, if no settlement or no agreement in respect of the extension of the negotiation period can be reached within two months of the arising of the dispute, the dispute shall be submitted to arbitration.
- a) in the case of TÜV Rheinland in question being legally registered and existing in the People's Republic of China, to China International Economic and Trade Arbitration Commission (CIETAC) to be settled by arbitration under the Arbitration Rules of CIETAC in force when the arbitration is submitted. The arbitration shall take place in Beijing, Shanghai, Shenzhen or Chongqing as appropriately chosen by the claiming party.
- b) in the case of TÜV Rheinland in question being legally registered and existing in Taiwan, to Chinese Arbitration Association, Taipei to be arbitrated in accordance with its then current Rules of Arbitration. The arbitration shall take place in Taipei.
- c) in the case of TÜV Rheinland being legally registered and existing in Hong Kong, to Hong Kong International Arbitration Centre (HKIAC) to be settled by arbitration under the HKIAC Administered Arbitration Rules in force when the Notice of Arbitration is submitted in accordance with these rules. The arbitration shall take place in Hong Kong.

The decision of the relevant arbitration tribunal shall be final and binding on both parties. The arbitration fee shall be borne by the losing party.

Date : 01.12.2021
Our ref. : GHF ZC10
Your ref.: W.B.

Ref : AN Certificate of Conf. Low Voltage D.

Type of Equipment : Electric Cooler & Warmer
Model Designation : See Certificate
Certificate No. : AN 50524943 0001
Report No. : 50086521 004

Dear Wu Bo,

We herewith confirm that a sample of the above mentioned technical equipment has been tested and was found to be in accordance with the relevant requirements.

Enclosed please find your Certificate of Conformity.

We appreciate your kind support and would like to offer our assistance and continuous services in the future.

With kind regards,

Certification Body



Dipl.-Ing. Th. Illing

Enclosure

TÜV RHEINLAND TAIWAN LTD.

11F., No. 758, Sec. 4, Bade Rd.,
Songshan Dist., Taipei City 105,
Taiwan, R. O. C.
Tel. (02) 2172-7000
Fax (02) 2172-1322
<http://www.tuv.com>

NEW TAIPEI BRANCH:
No. 458-18 & 458-19,
Sec. 2, Fenliao Rd., Linkou Dist.,
New Taipei City 244,
Taiwan, R. O. C.
Tel. (02) 2172-1000
Fax (02) 2172-1322

TAICHUNG BRANCH:
3F., No. 497, Zhongming South Rd.,
West Dist., Taichung City 403,
Taiwan, R. O. C.
Tel. (02) 2172-7000
Fax (02) 2172-1322

KAOHSIUNG BRANCH:
27F.-3, No.80, Minzu 1st Rd.,
Sanmin Dist., Kaohsiung City 807,
Taiwan, R. O. C.
Tel. (07) 262-6000
Fax (07) 380-0577

CERTIFICATE



of Conformity Low Voltage Directive 2014/35/EU

Registration No.: AN 50524943 0001

Report No.: 50086521 004

Holder:



Product:

Cooling Box
(Electric Cooler & Warmer)

Identification:

BL-104B BL-21105A BL-21123X
BL-21126X BL-21125X BL-21129X

Serial No.: n.a.

Remark: Issued in conjunction with TÜV Rheinland
license S 50482332 0003

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with Annex I of Council Directive 2014/35/EU, referred to as the Low Voltage Directive. This certificate does not imply assessment of the series-production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to Annex IV of the Directive.

Date 01.12.2021



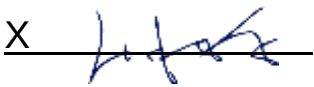
Certification Body

Dipl.-Ing. Th. Illing

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CE The CE marking may be used if all relevant and effective EC Directives are complied with.



Prüfbericht-Nr.: <i>Test report no.:</i>	50086521 004	Auftrags-Nr.: <i>Order no.:</i>	180217098	Seite 1 von 55 Page 1 of 55
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2021-11-04	
Auftraggeber: <i>Client:</i>				
Prüfgegenstand: <i>Test item:</i>	Electric Cooler & Warmer			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	See page 3			
Auftrags-Inhalt: <i>Order content:</i>	Type Test			
Prüfgrundlage: <i>Test specification:</i>	EN 60335-1:2012+A11+A13+A1+A14+A2 EN 60335-2-24:2010+A1+A2 EN 62233:2008 AfPS GS 2019:01 PAK EK1 527-12 Rev. 2			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2021-10-20			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003148821			
Prüfzeitraum: <i>Testing period:</i>	2021-11-23 - 2021-11-23			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland /CCIC (Ningbo) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland /CCIC (Ningbo) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	PASS			
geprüft von: <i>tested by:</i> Huafeng Gong	X 	genehmigt von: <i>authorized by:</i> Liwei Lang	X 	
Datum: <i>Date:</i> 2021-12-01		Ausstellungsdatum: <i>Issue date:</i> 2021-12-01		
Stellung / Position:	PE	Stellung / Position:	TC	
Sonstiges / <i>Other:</i>	This amended test report was to add alternative components and add 6 new models. Annex 1: PAHs risk analysis filled by manufacturer (1 page) Annex 2: PAHs risk analysis filled by GS test center (1 page)			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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	50086521 004
Date of issue	See cover page
Total number of pages	See cover page
Name of Testing Laboratory preparing the Report	TÜV Rheinland /CCIC (Ningbo) Co., Ltd. 3F Building C13, R&D Park, No.32 , Lane 299 Guanghua Road, National Hi-Tech Zone, Ningbo, 315048, P. R. China
Applicant's name.....	
Address	
Test specification:	
Standard	IEC 60335-2-24:2010 (Seventh Edition) + A1:2012 in conjunction with IEC 60335-1:2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
Test procedure.....	GS mark and LVD CE
Non-standard test method.....	N/A
Test Report Form No.....	IEC60335_2_24P
Test Report Form(s) Originator.....	Electrosuisse
Master TRF.....	Dated 2016-03
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General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description	Electric Cooler & Warmer				
Trade Mark	N/A				
Manufacturer.....	Same as applicant				
Model/Type reference	BL-107A, BL-112A, BL-113A, BL-124A, BL-124B, BL-124C, BL-124D, BL-130A, BL-132A, BL-140A, BL-212A, BL-212B, BL-212C, BL-212D, BL-215A, BL-215B, BL-215C, BL-215D, BL-219A, BL-219B, BL-219C, BL-240A, BL-240B, BL-240C, BL-240D, BL-245A, BL-108A, BL-122A, BL-125A, BL-129A, BL-129B, BL-129C, BL-150A, BL-104A, BL-225A, BL-108B, BL-110A, BL-116A, BL-125B, BL-125C, BL-104B, BL-21105A, BL-21123X, BL-21126X, BL-21125X, BL-21129X				
Rated voltage	AC220-240V/DC12V				
Frequency	50Hz for AC220-240V				
Climatic class.....	N/SN				
Insulation blowing gas.....	C5H10				
Rated input.....		AC220-240V		DC12V	
	Model	Cooling(W)	Warming(W)	Cooling(W)	Warming(W)
	BL-104A	46	38	40	30
	BL-107A	59	49	45	40
	BL-108A	53	48	40	38
	BL-108B	55	45	42	38
	BL-110A	55	45	43	38
	BL-112A	59	49	45	40
	BL-113A	55	45	43	38
	BL-116A	55	45	43	38
	BL-122A	55	--	45	--
	BL-124A/B/C/D	60	55	46	42
	BL-125A	58	--	48	--
	BL-125B/C	57	48	43	35
	BL-129A	58	--	48	--
	BL-129B/C	57	48	43	35
	BL-130A	60	55	46	42
	BL-132A	60	55	46	42
	BL-140A	60	55	46	42
	BL-150A	55	48	50	40
	BL-212A/B/C/D	80	75	60	55
	BL-215A/B/C/D	80	75	60	55
	BL-219A/B/C	80	75	60	55
	BL-240A/B/C/D	80	75	60	55
	BL-225A	80	68	60	48
	BL-245A	83	80	62	57

Rated input.....:		AC220-240V		DC12V	
	Model	Cooling(W)	Warming(W)	Cooling(W)	Warming(W)
	BL-104B	58	42	42	36
	BL-21105A	54	40	38	33
	BL-21123X	55	46	42	34
	BL-21126X	55	46	42	34
	BL-21125X	55	46	42	34
	BL-21129X	55	46	42	34

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	Testing Laboratory:	TÜV Rheinland /CCIC (Ningbo) Co., Ltd.
Testing location/ address		3F Building C13, R&D Park, No.32 , Lane 299 Guanghua Road, National Hi-Tech Zone, Ningbo, 315048, P. R. China
☐	Associated Testing Laboratory:	
Testing location/ address		
Tested by (name, function, signature)		See cover page
Approved by (name, function, signature) ..		See cover page
☐	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):

See cover page

Summary of testing:

1. BL-104B, BL-21105A and BL-21123X were subject to tests of clause 8, clause 10, clause 15.103, clause 20, clause 21, clause 22, clause 23 and clause 29.
2. Test result: Pass.

Currently neither a safeguard clause procedure has been invoked nor is an increase in accidents known for this / these product (s).

Tests performed (name of test and test clause):

All clauses above

Based on EK1 527-12 Rev.2 is EN 62233 applicable, the results are documented in EUROPEAN GROUP DIFFERENCES

Testing location

TÜV Rheinland /CCIC (Ningbo) Co., Ltd.
3F Building C13, R&D Park, No.32 , Lane 299
Guanghua Road, National Hi-Tech Zone, Ningbo,
315048, P. R. China

Summary of compliance with National Differences (List of countries addressed):

DE(DE=Germany)

☒ **The product fulfils the requirements of EN 60335-1:2012+A11+A13+A1+A14+A2, EN 60335-2-24: 2010 +A1+A2, EN 62233: 2008 and AfPS GS 2019:01 PAK.**

Copy of marking plate:

BL-107A

AC220-240V 50Hz Kühlen: 59W Warmhalten: 49W

DC12V  Kühlen: 45W Warmhalten: 40W

Klimaklasse: N/SN

Chemische Bezeichnung des Isolationsgases: C5H10

**Remark:**

1. For other models, except designation and rated cooling and warming power input, they are same as above marking plate. For designation and rated cooling and warming power input of other models, see page 3-4.
2. Manufacture or/and his importer shall ensure product bears label requirements in article 6 and article 8 of the 2014/35/EU relate to name, batch number, post address prior place the product into EU market.
3. Separate marking plate for insulation blowing gas with the height of the letters C5H10 at least 40mm:

INSULATION BLOWING GAS:

C₅H₁₀

Test item particulars	Electric Cooler & Warmer
Classification of installation and use	Portable appliance
Supply Connection	BL-125A, BL-125B, BL-125C, BL-129A, BL-129B, BL-129C, BL-150A, BL-21123X, BL-21126X, BL-21125X, BL-21129X: Type Y attachment(power cord fitted with a plug) Other models: Appliance inlet :
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	2021-10-20
Date (s) of performance of tests	2021-11-23
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 IEC 60335-2-24:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	
☐ Yes ☒ Not applicable	
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies): Same as applicant	

General product information:

- For BL-107A, BL-113A, BL-112A, BL-124A, BL-124B, BL-124C, BL-124D, BL-130A, BL-132A, BL-140A, BL-245A and BL-108A, each of them incorporates a switching power supply, a "HOT-off-COLD" selection switch and an "AC-off-DC" selection switch. For BL-245, there are two peltiers inside while for others, there is only one inside.
- For BL-122A, BL-125A and BL-129A, each of them incorporates one switching power supply, one peltier and one SELV relay that used for DC powers selection. For BL-125A and BL-129A, they are same except the volume of the container.
- For BL-212A, BL-212B, BL-212C, BL-212D, BL-215A, BL-215B, BL-215C, BL-215D, BL-219A, BL-219B, BL-219C, BL-240A, BL-240B, BL-240C, BL-240D, each of them incorporates one switching power supply, two peltiers and one SELV electronic controller. On the electronic controller there's a relay that used for DC powers selection.
 - For BL-212A, BL-212B, BL-212C, BL-212D, they are same except the panel.
 - For BL-215A, BL-215B, BL-215C, BL-215D, they are same except the panel.
 - For BL-219A, BL-219B, BL-219C, they are same except the panel.
 - For BL-240A, BL-240B, BL-240C, BL-240D, they are same except the panel.
- For BL-150A, it incorporates a switching power supply, a peltier and a "HOT-off-COLD" selection switch. On the switching power supply there's a relay that used for DC powers selection.
- For the configuration of Switching Power Supply(SWS) of all the models, see following table:

Model	Switching power supply	Alternative switching power supply
BL-112A, BL-113A, BL-124A, BL-124B, BL-124C, BL-124D, BL-130A, BL-132A, BL-140A, BL-108A, BL-122A, BL-125A, BL-129A	JWBX-12V5A-A	JWBX-12V5A-BR
BL-107A, BL-212A, BL-212B, BL-212C, BL-212D, BL-215A, BL-215B, BL-215C, BL-215D, BL-219A, BL-219B, BL-219C, BL-240A, BL-240B, BL-240C, BL-240D, BL-245A	JWBX-12V5A-A	--
BL-150A	--	JWBX-12V5A-BR

Amendment 1:

The original Test Report No.50086521 001, dated 2017-07-20 was additionally modified on 2020-01-15 to make following modifications:

- Add alternative plugs, switching power supplies to previous certified models. For details, see the bold in table 24.1.

The new switching power supplies are JWBX-12V5A-C, JWBX-12V5A-CR and JWBX-12V5A-C-01. They are same except the difference in below table. After assessment, BL-219A with new switching power supply(JWBX-12V5A-C-01) was selected for heating tests.

Model of switching power supply	Separate means for the connection of the mains and of the battery
JWBX-12V5A-C	Yes, by diodes on PCB of switching power supply
JWBX-12V5A-CR	Yes, by relay on PCB of switching power supply
JWBX-12V5A-C-01	No separate means on PCB of switching power supply

- Cancel the switching power supply(JWBX-12V5A-BR) for previous certified models.
- Add two new models: BL-129B and BL-129C.
BL-129B shares same electrical components with previous certified model BL-150A, after assessment, no additional heating tests needed.
BL-129C is same as BL-129B except the panel.

4. Update standard from original EN 60335-1:2012+A11, EN 60335-2-24:2010, EN 62233: 2008 and AfPS GS 2014:01 to EN 60335-1:2012+A11+A13, EN 60335-2-24:2010+A1+A2, EN 62233: 2008 and AfPS GS 2014:01. CDF of all models were updated.

Amendment 2:

The original Test Report No.50086521 001, dated 2017-07-20 was additionally modified on 2020-10-15 to make following modifications:

1. Cancel the previous certified model: BL-113A.
2. Change the food container of BL-125A. For details, see the photo document of this amended test report. After assessment, no additional heating tests needed.
3. Add new models: BL-113A, BL-104A, BL-108B, BL-110A, BL-116A, BL-125B, BL-125C and BL-225A.
 - The new model BL-113A in this amended test report is no relation with the above cancelled one.
 - For BL-113A, BL-104A, BL-108B, BL-110A and BL-116A, each of them incorporates a switching power supply, a "HOT-off-COLD" selection switch, an "AC-off-DC" selection switch and one peltier inside.
 - For BL-125B, except the food container, it is same as previous certified model BL-129B. After assessment, no additional heating tests needed.
 - For BL-125C, except the food container, it is same as previous certified model BL-129C. After assessment, no additional heating tests needed.
 - For BL-225A, it incorporates one switching power supply, two peltiers and one SELV electronic controller. On the electronic controller there's a relay that used for DC powers selection.
 - For the configuration of Switching Power Supply(SWS) of new models: BL-113A, BL-104A, BL-108B, BL-110A, BL-116A, and BL-225A, see following table:

Model	Switching power supply	New alternative switching power supply
BL-113A, BL-104A, BL-108B, BL-110A, BL-116A	JWBX-12V5A-A, JWBX-12V5A-C-01, JWBX-12V5A-C, JWBX-12V5A-CR	JWBX-12V4A-D-02
BL-225A	JWBX-12V5A-A; JWBX-12V5A-C-01	--

Remark:

- For all the switching power supply in the table, JWBX-12V4A-D-02 is newly added in this amended test report; others were already listed in previous test reports.
 - For new switching power supply JWBX-12V4A-D-02, there is no separate means for the connection of the mains and of the battery.
 - For BL-113A, BL-104A, BL-108B, BL-110A, BL-116A, after assessment, BL-116A equipped with new switching power supply JWBX-12V4A-D-02 was selected for the heating tests.
 - For BL-225A, as it shares the same switching power supply and rated cooling power with previous certified model BL-240A, after assessment, no additional heating tests needed.
4. Cancel the DC fan motors(model 9225 and 12025) in table 24.1 for previous certified models.
 5. Add alternative switching power supply JWBX-12V4A-D-02, which is same as that of BL-116A, to previous certified model BL-108A and BL-122A. As the rated cooling powers of both models are not greater than BL-116A, after assessment, no additional heating tests needed.
 6. Update standards from original EN 60335-1:2012+A11+A13, EN 60335-2-24:2010+A1+A2, EN 62233: 2008 and AfPS GS 2014:01 to current EN 60335-1:2012+A11+A13+A1+A14+A2, EN 60335-2-24:2010+A1+A2, EN 62233: 2008 and AfPS GS 2019:01 PAK. CDF of all models was updated.

Amendment 3:

The original Test Report No.50086521 001, dated 2017-07-20 was additionally modified on 2021-12-01 to make following modifications:

1. Add alternative plug, power cord, connector, DC cord set to all previous certified models. For details see the bold in table 24.1. CDF of all model was updated.
2. Add new models: BL-104B, BL-21105A, BL-21123X, BL-21126X, BL-21125X and BL-21129X.

- For BL-104B and BL-21105A, each of them incorporates a switching power supply, a “HOT-off-COLD” selection switch, an “AC-off-DC” selection switch and one peltier inside.
- For BL-21123X, BL-21126X, BL-21125X and BL-21129X, they are same except the food container
- For the configuration of Switching Power Supply(SWS) of six new models, see following table:

Model	Switching power supply
BL-104B	JWBX-12V5A-A, JWBX-12V5A-C-01, JWBX-12V5A-C, JWBX-12V5A-CR
BL-21105A	JWBX-12V5A-A, JWBX-12V5A-C-01, JWBX-12V5A-C, JWBX-12V5A-CR, JWBX-12V4A-D-02
BL-21123X, BL-21126X, BL-21125X, BL-21129X	JWBX-12V5A-C, JWBX-12V5A-CR

Remark:

- For all the switching power supplies in the table, they were already listed in previous test reports.
- According to previous test report, for switching power supply JWBX-12V5A-A, it can be used in the rated cooling power 83W models.
- According to previous test report, for switching power supplies JWBX-12V5A-C-01, JWBX-12V5A-C, JWBX-12V5A-CR, they can be used in the rated cooling power 80W models.
- According to previous test report, for switching power supply JWBX-12V4A-D-02, it can be used in the rated cooling power 55W models.
- For BL-104B(rated cooling power 58W), as its switching power supplies can be used in the rated cooling power 83W and 80W models, after assessment, no additional heating tests needed.
- For BL-21105A(rated cooling power 54W), as its switching power supplies can be used in the rated cooling power 83W, 80W and 55W models, after assessment, no additional heating tests needed.
- For BL-21123X, BL-21126X, BL-21125X and BL-21129X(rated cooling power 55W), as its switching power supplies can be used in the rated cooling power 80W models, after assessment, no additional heating tests needed.

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		P
	Tests performed according to cl. 5, e.g. nature of supply, sequence of testing, etc.		P
5.3	Before starting the tests (IEC 60335-2-24:2010):		—
	- ice cream appliances are operated empty of rated voltage for 1 h		N/A
	- other compression-type appliances shall be operated at rated voltage for 24 h then switched off for 12 h		N/A
5.4	Tests are additionally carried out with all combinations of energy sources supplied simultaneously unless this is prevented by interlocking devices (IEC 60335-2-24:2010)		N/A
5.7	Tests according to sub-clause 10, 11, 13 and subcl. 19.103 at ambient temperature of (IEC 60335-2-24:2010)		—
	(23 ± 2) °C for ice-cream appliances		N/A
	(32 ± 1) °C Climatic class	SN ☒	P
	(32 ± 1) °C Climatic class	N ☒	P
	(38 ± 1) °C Climatic class	ST ☐	N/A
	(43 ± 1) °C Climatic class	T ☐	N/A
5.102	Compression-type appliances with heating systems and Peltier-type appliances are tested as combined appliances (IEC 60335-2-24:2010)		P
6	CLASSIFICATION		P
6.1	Protection against electric shock: Class 0, 0I, I, II, III	Class II	P
6.2	Protection against harmful ingress of water		N/A
6.101	Appliances, other than ice-cream appliances, shall be of one or more of the following climatic classes: SN, N, ST, T (IEC 60335-2-24:2010)		—
7	MARKING AND INSTRUCTIONS		P
7.1	Rated voltage or voltage range (V)	AC220-240V/DC12V	P
	Nature of supply		P
	Rated frequency (Hz)	50Hz for AC220-240V	P
	Rated power input (W)	See page 3-4	P
	Rated current (A)		N/A
	Manufacturer's or responsible vendor's name, trademark or identification mark.....	YUYAO BEILA ELECTRICAL APPLIANCE CO.,LTD.	P
	Model or type reference.....	See page 3	P
	Symbol 5172 of IEC 60417, for Class II appliances		P
	IP number, other than IPX0		N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only		N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		N/A
	Power input of heating systems, if greater than 100 W, (W) (IEC 60335-2-24:2010)		N/A
	Defrosting input, in W, if greater than the rated power input, (W) (IEC 60335-2-24:2010)		N/A
	Rated power input in Watts (IEC 60335-2-24:2010)		P
	Rated current in Amperes for compression-type appliances (IEC 60335-2-24:2010)		N/A
	Climatic class of the appliance (SN, N, ST or T) (IEC 60335-2-24:2010)		P
	Maximum rated input of lamps in Watts (IEC 60335-2-24:2010)		N/A
	Total mass of the refrigerant (IEC 60335-2-24:2010)		N/A
	For a single component refrigerant, at least one of the following (IEC 60335-2-24:2010):		—
	- the chemical name		N/A
	- the chemical formula		N/A
	- the refrigerant number		N/A
	For a blended refrigerant, at least one of the following (IEC 60335-2-24:2010):		—
	- the chemical name and nominal proportion of each of the components		N/A
	- the chemical formula and nominal proportion for each of the components		N/A
	- the refrigerant numbers and nominal proportion of each of the components		N/A
	- the refrigerant number of the refrigerant blend		N/A
	The chemical name or refrigerant number of the insulation blowing gas (IEC 60335-2-24:2010)	C5H10	P
	Battery voltage for appliances which can be mains and battery operated (IEC 60335-2-24:2010)		P
	Max. power input for incorporated ice-maker, if greater than 100 W (IEC 60335-2-24:2010)		N/A
	Ice-makers shall be marked with the maximum permissible water level (IEC 60335-2-24:2010)		N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Compression-type refrigerating systems appliance shall be marked with mass of the refrigerant for each separate refrigerant circuit (IEC 60335-2-24:2010)		N/A
	Compression-type appliances flammable which use refrigerants shall be marked the symbol Caution: risk of fire” (IEC 60335-2-24:2010)		N/A
	Appliances employing R-744 in a transcritical refrigeration system shall be marked with the substance of the following: (IEC 60335-2-24:2010)		—
	Warning: System contains refrigerant under high pressure. Do not tamper with the system. It must be serviced by qualified persons only.		N/A
	Appliances employing R-744 in a transcritical refrigeration system shall be marked with symbol ISO 7000 – 1701 (2004-01). (IEC 60335-2-24:2010)		N/A
7.2	Warning for stationary appliances for multiple supply		N/A
	Warning placed in vicinity of terminal cover		N/A
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen		P
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible		P
	Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram		N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless		N/A
	the power input is related to the arithmetic mean value of the rated voltage range		P
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used		P
	Symbol for nature of supply placed next to rated voltage		P
	Symbol for class II appliances placed unlikely to be confused with other marking		P
	Units of physical quantities and their symbols according to international standardized system		P
	 Symbol IEC 60417-5005 (2002-10) Plus; positive polarity (IEC 60335-2-24:2010)		N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Symbol IEC 60417-5006 (2002-10) Minus; negative polarity (IEC 60335-2-24:2010)		N/A
	 Symbol ISO 7010 W021 Caution: risk of fire (A1:12)		N/A
	 Symbol ISO 7000-1701 (2004-01) Pressure (IEC 60335-2-24:2010)		N/A
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply		N/A
	correct mode of connection is obvious		N/A
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		—
	- marking of terminals exclusively for the neutral conductor (letter N)		N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		N/A
	- marking of functional earthing terminals (symbol IEC 60417-5018)		N/A
	- marking not placed on removable parts		N/A
7.9	Marking or placing of switches which may cause a hazard		P
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means:		P
	This applies also to switches which are part of a control		P
	If figures are used, the off position indicated by the figure 0		N/A
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		N/A
	See Note (IEC 60335-2-24:2010)		P
7.11	Indication for direction of adjustment of controls		P
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	The instructions state that:		—
	- the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction	Replaced by EN 60335-1	N/A
	- children being supervised not to play with the appliance	Replaced by EN 60335-1	N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided		N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless		N/A
	it is a battery-operated appliance, the battery being charged outside the appliance		N/A
	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated		N/A
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only		N/A
	Instructions for refrigerating appliances and ice-makers for camping or similar use include the substance of the following (IEC 60335-2-24:2010):		—
	- suitable for camping use		N/A
	- the appliances connected to more than one source of energy		N/A
	- the appliances shall not be exposed to rain unless at least IPX4		N/A
	- for ice-makers not intended to be connected to the water supply WARNING: fill with potable water only		N/A
	For compression-type appliances which use flammable refrigerants, instructions shall include information pertaining to the installation, handling, servicing (IEC 60335-2-24:2010)		N/A
	For compression-type appliances that use flammable refrigerants shall additionally include the substance of the warnings listed below: (IEC 60335-2-24:2010)		N/A
	- WARNING – Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction (IEC 60335-2-24:2010)		N/A
	- WARNING – Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer (IEC 60335-2-24:2010)		N/A
	- WARNING – Do not damage the refrigerant circuit (IEC 60335-2-24:2010)		N/A
	- WARNING – Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer (IEC 60335-2-24:2010)		N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Appliances which use flammable insulation blowing gases, instructions shall include information regarding disposal of the appliance (IEC 60335-2-24:2010)		P
	Instructions for ice-cream appliances shall include ingredients and max. quantity of mixtures that can be used in the appliance (IEC 60335-2-24:2010)		N/A
	The instructions shall state the substance of the following (IEC 60335-2-24:2010)		—
	Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.		P
	If symbol ISO 7000–1701 (2004-01) is used, its meaning shall be explained.		N/A
	The instructions shall include the substance of the following (IEC 60335-2-24:2010)		—
	This appliance is intended to be used in household and similar applications (list)		P
7.12.1	Sufficient details for installation supplied		N/A
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated		N/A
	If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance		P
	The method for replacing illuminating lamps included (IEC 60335-2-24:2010), if the lamps can be replaced by the user (A1:12)		N/A
	Appliances designed for incorporating ice-makers, the types of ice-makers (IEC 60335-2-24:2010)		N/A
	Information on the installation of incorporated ice-makers as optional accessories (IEC 60335-2-24:2010)		N/A
	Incorporated ice-makers installed only by the manufacturer or its service agent (IEC 60335-2-24:2010)		N/A
	Ice makers intended to be connected to the water supply (IEC 60335-2-24:2010):		—
	WARNING: connect to potable water supply only (IEC 60335-2-24:2010)		N/A
	Instructions for fixed appliances shall include the following warning (IEC 60335-2-24:2010):		—
	WARNING: To avoid a hazard due to instability of the appliance, it must be fixed in accordance with the instructions (IEC 60335-2-24:2010)		N/A
	In appliances employing R-744 in a transcritical refrigeration system the instructions shall include the substance of the following (IEC 60335-2-24:2010) :		—
	WARNING: The refrigeration system is under high pressure. Do not tamper with it. Contact qualified service personal before disposal.		N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
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		N/A
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during Clause 11; instructions stating that the fixed wiring must be protected		N/A
7.12.4	Instructions for built-in appliances:		—
	- dimensions of space		N/A
	- dimensions and position of supporting and fixing		N/A
	- minimum distances between parts and surrounding structure		N/A
	- minimum dimensions of ventilating openings and arrangement		N/A
	- connection to supply mains and interconnection of separate components		N/A
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless		N/A
	a switch complying with 24.3		N/A
	Also applicable to fixed appliances (IEC 60335-2-24:2010)		N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment		P
	Replacement cord instructions, type Z attachment		N/A
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard		N/A
7.12.7	The instructions for fixed appliances shall state how the appliance is to be fixed to its support		N/A
7.12.8	Instructions for appliances connected to the water mains:		—
	- max. inlet water pressure (Pa)..... :		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	English and German versions	P
7.14	Marking clearly legible and durable, rubbing test as specified		P

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	The height of the triangle in the symbol “Caution: risk of fire” shall be at least 15 mm (IEC 60335-2-24:2010)		N/A
	The height of the letters used for the marking of the type of flammable blowing insulation gas shall be at least 40 mm (IEC 60335-2-24:2010 + A1:12)		P
7.15	Marking on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		N/A
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		N/A
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading		P
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180		N/A
	Max. rated input of lamps discernible (IEC 60335-2-24:2010 + A1:12)		N/A
	Compression-type appliances the marking of the type of flammable refrigerant and of the flammable insulation blowing gas, as well as the symbol Caution: risk of fire, shall be visible when gaining access to the motor-compressors (IEC 60335-2-24:2010)		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	Appliances which can be battery operated the connection shall be indicated by the symbol “+” or the colour red and “-” or black (IEC 60335-2-24:2010)	The polarity is irrelevant as the design avoid the reverse connection of the coupler	N/A
	The positive terminal shall be indicated by symbol IEC 60417-5005 (2002-10) and the negative terminal by symbol IEC 60417-5006 (2002-10). (IEC 60335-2-24:2010)		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

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Lamps behind a detachable cover not removed, if conditions met		N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts		P
	Use of test probe B of IEC 61032 through openings, with a force of 20 N: no contact with live parts		P
	Removal of lamps: protection against contact with live parts (IEC 60335-2-24:2010)		N/A
8.1.2	Use of test probe 13 of IEC 61032 through openings in class 0 appliances and class II appliances/constructions: no contact with live parts		P
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		N/A
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032: no contact with live parts of visible glowing heating elements		N/A
8.1.4	Accessible part not considered live if:		—
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V	The switching power supplies were type approved	P
	- safety extra-low d.c. voltage: not exceeding 42.4 V	The switching power supplies were type approved	P
	- or separated from live parts by protective impedance	The switching power supplies were type approved	P
	If protective impedance: d.c. current not exceeding 2 mA, and	The switching power supplies were type approved	P
	a.c. peak value not exceeding 0.7mA	The switching power supplies were type approved	P
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0.1 μ F	The switching power supplies were type approved	P
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μ C		N/A
	- for voltages having a peak value over 15 kV, the energy in the discharge shall not exceed 350 mJ.		N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		—
	- built-in appliances		N/A
	- fixed appliances		N/A
	- appliances delivered in separate units		N/A
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

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Only possible to touch parts separated from live parts by double or reinforced insulation		P
10 POWER INPUT AND CURRENT			
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in Table 1:	(see appended table)	P
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		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		P
	Appliances being operated under normal operation, user adjustable temperature controls are set to give the lowest temperature (IEC 60335-2-24:2010)		P
	The power input stabilized, steady conditions established (IEC 60335-2-24:2010)		P
	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 60335-2-24:2010)		N/A
15 MOISTURE RESISTANCE			
15.103	Appliances, other than built-in appliances, ice-makers and ice-cream appliances, are tilted at an angle of up to 2° (IEC 60335-2-24:2010)		P
	Test with 0.5 l water containing 1 % NaCl and 0.6 % of acid rinsing agent over the top of the appliance (IEC 60335-2-24:2010)		P
20 STABILITY AND MECHANICAL HAZARDS			
20.1	Appliances having adequate stability		N/A
	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		N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15 °		N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in Table 9		N/A
	Ice-cream appliances shall have adequate stability (IEC 60335-2-24:2010)		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		N/A
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure		N/A
	Not possible to touch dangerous moving parts with the test probe described		P
20.101	Refrigeration appliances and ice-makers shall have adequate stability. Tests according to 20.102, 20.103 and 20.104 (IEC 60335-2-24:2010)		P
	This requirement does not apply to built-in appliances (IEC 60335-2-24:2010)		N/A
20.102	Tests with weights as described	No such doors	N/A
	Test with door opened to 90 ° (IEC 60335-2-24:2010)		N/A
	Test with door opened to 180 ° or to the limit of door stop (IEC 60335-2-24:2010)		N/A
20.103	Test with one of the drawers is pulled to the most onerous out position (IEC 60335-2-24:2010)	No drawers	N/A
	Test with two drawers are pulled to the most onerous out position (IEC 60335-2-24:2010)		N/A
20.104	Test with sliding drawers accessible without opening a door (IEC 60335-2-24:2010)		N/A
	Doors shelves are loaded as specified in 20.102 and opened 90 ° (IEC 60335-2-24:2010)		N/A
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		P

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	The appliance shows no damage impairing compliance with this standard, and		P
	compliance with 8.1, 15.1 and Clause 29 not impaired		P
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements		P
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm		P
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		N/A
21.101	Appliances for camping or similar use tested against the effects of dropping and vibration as specified (IEC 60335-2-24:2010)		N/A
21.102	Lamps are protected against mechanical shocks (IEC 60335-2-24:2010)		N/A
22	CONSTRUCTION		P
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled		N/A
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		—
	- a supply cord fitted with a plug, or		N/A
	- a switch complying with 24.3, or		N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		N/A
	- an appliance inlet		N/A
	Single-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		N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets		N/A
	Applied torque not exceeding 0.25 Nm		N/A
	Pull force of 50 N to each pin after the appliance has been placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1 mm		N/A
	Each pin subjected to a torque of 0.4 Nm; the pins are not rotating, unless		N/A
	rotating does not impair compliance with this standard		N/A

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		N/A
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 μ F, the appliance being disconnected from the supply at the instant of voltage peak		P
	Voltage not exceeding 34 V (V).....:		P
22.6	Electrical insulation not affected by condensing water or leaking liquid		P
	Electrical insulation of Class II appliances not affected in case of a hose rupture or seal leak		P
	In case of doubt, test as described		N/A
	Thermostats are not in contact with the evaporator unless they are adequately protected (IEC 60335-2-24:2010)		N/A
	Fluids don't flow along parts such as stems and tubes of thermostats (IEC 60335-2-24:2010)		N/A
22.7	Compression-type appliances, including protective enclosures of a protected cooling system, using flammable refrigerants shall withstand (IEC 60335-2-24:2010)		—
	- a pressure of 3.5 times the saturated vapour pressure (70 °C)		N/A
	- a pressure of 5 times the saturated vapour pressure (20 °C)		N/A
	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices		N/A
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		N/A
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:		N/A
	- a non-self-resetting thermal cut-out is required by the standard, and		N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it		N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
	they are voltage maintained		N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		N/A
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		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		N/A
	Tests as described		P
22.12	Handles, knobs etc. fixed in a reliable manner		P
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible		P
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		P
22.13	Unlikely that handles, when gripped as in normal use, make the operators hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only		P
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
22.15	Storage hooks and the like for flexible cords smooth and well rounded		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		N/A
	Cord reel tested with 6'000 operations, as specified		N/A
	Electric strength test of 16.3, voltage of 1'000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		N/A
	Not applicable to refrigeration appliances and ice-makers (IEC 60335-2-24:2010)		—
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.19	Driving belts not relied upon to provide the required level of insulation, unless		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
	constructed to prevent inappropriate replacement		N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		N/A
	material used is non-corrosive, non-hygroscopic and non-combustible		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	No such material used as insulation	P
	impregnated		N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		N/A
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported		P
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		N/A
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		N/A
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		P
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		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		N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		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

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Clause	Requirement – Test	Result – Remark	Verdict
	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
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		P
	unearthed metal parts separated from live parts by basic insulation only		N/A
	Electrodes not used for heating liquids		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		P
	the reinforced insulation consists of at least 3 layers		N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		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		P
	Heating conductors having only one layer of insulation are not in direct contact with water or ice during normal use (IEC 60335-2-24:2010)		N/A
	NOTE : Frozen water is regarded as a conducting liquid (IEC 60335-2-24:2010)		P
22.34	Shafts of operating knobs, handles, levers etc. not live, unless		P
	the shaft is not accessible when the part is removed		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		P
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		N/A
	they are separated from live parts by double or reinforced insulation		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
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		P
	the capacitors comply with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out		N/A
22.39	Lamp holders used only for the connection of lamps		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		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		N/A
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two separate components		P
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		P
	Resistors checked by the test of 14.1 a) in IEC 60065		N/A
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14		P
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		P
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		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		N/A
	These requirements are not applicable to software used for functional purpose or compliance with Clause 11		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		N/A
	No leakage from any part, including any inlet water hose		N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water		N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless		N/A
	the appliance switches off automatically or can operate continuously without hazard		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		N/A
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		N/A
	There is a visual indication showing that the appliance is adjusted for remote operation		N/A
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		—
	- continuously, or		N/A
	- automatically, or		N/A
	- remotely		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		N/A
22.53	Class II appliances and class III appliances that incorporate functionally earthed parts have at least double insulation or reinforced insulation between live parts and the functionally earthed parts		N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless		N/A
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A
22.105	Appliances which can also be battery operated, the battery circuit is insulated from live parts by double insulation or reinforced insulation (IEC 60335-2-24:2010)		P
	It is not possible to touch live parts when making the connections to the battery (IEC 60335-2-24:2010)		P
	Specified for double insulation or reinforced insulation (IEC 60335-2-24:2010)		P
23	INTERNAL WIRING		P

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Clause	Requirement – Test	Result – Remark	Verdict
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		N/A
	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		N/A
	Beads inside flexible metal conduits contained within an insulating sleeve		N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress		N/A
	Flexible metallic tubes not causing damage to insulation of conductors		N/A
	Open-coil springs not used		N/A
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N/A
	No damage after 10'000 flexings for conductors flexed during normal use, or		N/A
	100 flexings for conductors flexed during user maintenance		N/A
	Electric strength test of 16.3, 1'000 V between live parts and accessible metal parts		N/A
	Not more than 10 % of the strands of any conductor broken, and		N/A
	not more than 30 % for wiring supplying circuits that consume no more than 15 W		N/A
	Open-coil springs not used. NOTE : It does not apply to external conductors (IEC 60335-2-24:2010)		N/A
23.4	Bare internal wiring sufficiently rigid and fixed		N/A
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use		P
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or		N/A
	no breakdown when a voltage of 2'000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		P
	For class II construction, the requirements for supplementary insulation and reinforced insulation apply,		N/A

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Clause	Requirement – Test	Result – Remark	Verdict
	except that the sheath of a cord complying with IEC 60227 or IEC 60245 may provide supplementary insulation.		N/A
	A single layer of internal wiring insulation does not provide reinforced insulation		P
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or		N/A
	be such that it can only be removed by breaking or cutting		P
23.7	The colour combination green/yellow used only for earthing conductors		N/A
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		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)		N/A
24	COMPONENTS		P
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components:	(see appendix components)	P
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		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		P
29.1.4	Clearances for functional insulation are the largest values determined from:		—
	- Table 16 based on the rated impulse voltage:	(see appended table)	P
29.2.2	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.....		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

IEC 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Table 2 of IEC 60664-4, as applicable..... :		N/A
29.2.4	Creepage distances of functional insulation not less than specified in Table 18 :	(see appended table)	P
29.3	Supplementary insulation and reinforced insulation shall have adequate thickness, or have a sufficient number of layers, to withstand the electrical stresses		P
	Compliance checked:		—
	- by measurement, in accordance with 29.3.1, or		P
	- by an electric strength test in accordance with 29.3.2, or		P
	- for insulation, other than single layer internal wiring insulation, by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		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		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm		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		P
	Supplementary insulation consist of at least 2 layers		N/A
	Reinforced insulation consist of at least 3 layers		P

10.1	TABLE: Power input deviation					P
Input deviation of/at:		P rated (W)	P measured (W)	P	Required P	Remark
BL-104B with switching power supply(JWBX-12V5A-C):						
Cooling	58	54.2	-6.6%	+10%; -10%		AC230V
Warming	42	40.1	-4.5%	+10%; -10%		AC230V
Cooling	42	38.0	-9.5%	+10%; -10%		DC12V
Warming	36	33.3	-7.5%	+10%; -10%		DC12V
BL-21105A with switching power supply(JWBX-12V5A-C):						
Cooling	54	53.8	-0.4%	+10%; -10%		AC230V
Warming	40	40.2	+0.5%	+10%; -10%		AC230V
Cooling	38	38.0	+0.0%	+10%; -10%		DC12V
Warming	33	32.7	-0.9%	+10%; -10%		DC12V
BL-21123X with switching power supply(JWBX-12V5A-C):						
Cooling	55	54.8	-0.4%	+10%; -10%		AC230V
Warming	46	45.6	-0.9%	+10%; -10%		AC230V
Cooling	42	41.8	-0.5%	+10%; -10%		DC12V
Warming	34	34.2	+0.6%	+10%; -10%		DC12V
Supplementary information:						

24.1	TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity	
Plug	1.Self-Man Industrial Co., Ltd.	SH-037	AC250V;2.5A	DIN VDE 0620-1	VDE 101016	
	2.Ningbo Ousheng Electric Appliance Co., Ltd.	S01	AC250V;2.5A	DIN VDE 0620-1	VDE 40022677	
	3.Yuyao Jinsheng Electron Co.,Ltd.	JSB-1	AC250V;2.5A	DIN VDE 0620-1	VDE 40033566	
	4.Ningbo Meidi Electric Co.,Ltd.	M01	AC250V;2.5A	DIN VDE 0620-1	VDE 40035386	
Plug only for UK market	1.Ningbo Xuanhua Electric Appliance Co.,Ltd.	XH031A; XH031B; XH031C	AC250V;13A	BS 1363-1	ASTA 1118	
	2.Yuyao Yunbiao Electronics Co.,Ltd.	YB006	AC250V;13A	BS 1363-1	KM 73093	
AC power cord	1.I-Sheng Electric Wire & Cable Co.,Ltd.	H03VVH2-F	2X0.5mm ² ; 2X0.75mm ²	EN 50525-2-11	VDE 40006070	
	2.Ningbo Ousheng Electric Appliance Co., Ltd.	H03VVH2-F	2X0.5mm ² ; 2X0.75mm ²	EN 50525-2-11	VDE 40021137	
	3.Yuyao Jinsheng Electron Co.,Ltd.	H03VVH2-F	2X0.5mm ² ; 2X0.75mm ²	EN 50525-2-11	VDE 40028513	
	4.Ningbo Meidi Electric Co.,Ltd.	H03VVH2-F	2X0.5mm²; 2X0.75mm²	EN 50525-2-11	VDE 40035209	

AC connector for all models except BL-125A/B/C, BL-129A/B/C, BL-150A, BL-21123X, BL-21126X, BL-21125X, BL-21129X	1.Self-Man Industrial Co., Ltd.	SH-103	AC250V;2.5A	DIN EN 60320-1	VDE 40014796
	2.Ningbo Ousheng Electric Appliance Co., Ltd.	ST2	AC250V; 2.5A	DIN EN 60320-1	VDE 40022823
	3.Yuyao Jinsheng Electron Co.,Ltd.	JSB-27	AC250V; 2.5A	DIN EN 60320-1	VDE 40043310
	4.Ningbo Meidi Electric Co.,Ltd.	M-204	AC250V; 2.5A	EN 60320-1	TUVRh 50503657
AC inlet for all models except BL-125A/B/C, BL-129A/B/C, BL-150A, BL-21123X, BL-21126X, BL-21125X, BL-21129X	1.Rong Feng Industrial Co. Ltd.	RF-180	AC250V; 2.5A	DIN EN 60320-1	VDE 40030168
	2.Zhe Jiang Bei Er Jia Electronic Co.,Ltd.	ST-A03-002	AC250V; 2.5A	DIN EN 60320-1	VDE 40014833
	3.Ningbo Jiayuan Electronic Co.,Ltd.	AC-006A	AC250V; 2.5A	EN 60320-1	TUVRh 50177281
DC inlet for all models except BL-125A/B/C, BL-129A/B/C, BL-150A, BL-21123X, BL-21126X, BL-21125X, BL-21129X	1.YuYao Beila Electrical Appliance Co.,Ltd.	DC001	DC12V; 6A	EN 60335-1 EN 60335-2-24	Test with appliance
	2.Ningbo Jiayuan Electrical Co.,Ltd.	DC007	DC12V; 6A	EN 60335-1 EN 60335-2-24	Test with appliance
	3.YuYao Beila Electrical Appliance Co.,Ltd.	AC-007	DC12V, 6A; 250V, 2.5A	EN 60335-1 EN 60335-2-24	Test with appliance
DC cord set for all models	1.Ningbo Yunhuan Electronics Group Corp	SPT-1	18AWG for cord	EN 60335-1 EN 60335-2-24	UL E137357*
	2.Ningbo Qiaopu Electric Co., Ltd.	SPT-1	18AWG for cord	EN 60335-1 EN 60335-2-24	UL E247978*
	3.Ningbo Ousheng Electric Appliance Co.,Ltd.	SPT-1	18AWG for cord	EN 60335-1 EN 60335-2-24	UL E309921*
	4.Yuyao Jinsheng Electron Co.,Ltd.	SPT-1	18AWG for cord	EN 60335-1 EN 60335-2-24	UL E492108*
	5. Ningbo Meidi Electric Co.,Ltd.	SPT-1	18AWG for cord	EN 60335-1 EN 60335-2-24	ETL 5013868

DC cord set only for BL-104A, BL-107A, BL-108A/B, BL-110A, BL-112A, BL-113A, BL-116A, BL-124A/B/C/D, BL-130A, BL-132A, BL-140A, BL-122A, BL-125A/B/C, BL-129A/B/C, BL-150A, BL-104B, BL-21105A, BL-21123X, BL-21126X, BL-21125X, BL-21129X	1.Ningbo Yunhuan Electronics Group Corp	SPT-1	20AWG for cord	EN 60335-1 EN 60335-2-24	UL E137357*
	2.Ningbo Qiaopu Electric Co., Ltd.	SPT-1	20AWG for cord	EN 60335-1 EN 60335-2-24	UL E247978*
	3.Ningbo Ousheng Electric Appliance Co.,Ltd.	SPT-1	20AWG for cord	EN 60335-1 EN 60335-2-24	UL E309921*
	4.Yuyao Jinsheng Electron Co.,Ltd.	SPT-1	20AWG for cord	EN 60335-1 EN 60335-2-24	UL E492108*
	5. Ningbo Meidi Electric Co.,Ltd.	SPT-1	20AWG for cord	EN 60335-1 EN 60335-2-24	ETL 5013868
Fuse in DC plug	1.Conquer Electronics Co.,Ltd.	UBM	AC250V;8A or 10A;F;5X20mm	DIN EN 60127-1 DIN EN 60127-2	VDE 40008021
	2.Walter Electronic Co. Ltd.	FSD	AC250V;8A;F;5X20mm	DIN EN 60127-1 DIN EN 60127-2	VDE 40016929
	3.XC Electronics (Shenzhen) Corp. Ltd.	5T	AC250V;8A;F;5X20mm	DIN EN 60127-1 DIN EN 60127-2	VDE 40009610
Internal wire	1.Yuyao Yunlou Touch Parts Factory	227IEC06(RV)	2X0.75mm ²	EN 60335-1 EN 60335-2-24	Test with appliance
	2.Yuyao Hongfeng Electric cable Co., Ltd.	227IEC02(RV); 227IEC06(RV); 227IEC08(RV-90)	2X0.75mm ²	EN 60335-1 EN 60335-2-24	Test with appliance
	3.Yuyao Yunlou Touch Parts Factory	227IEC53(RVV)	2X0.75mm ²	EN 60335-1 EN 60335-2-24	Test with appliance
	4.Yuyao Hongfeng Electric cable Co., Ltd.	227IEC53(RVV)	2X0.75mm ²	EN 60335-1 EN 60335-2-24	Test with appliance
	5. Yuyao Xinma Touch Parts Factory	227IEC52(RVV) 227IEC53(RVV)	2X0.75mm ²	EN 60335-1 EN 60335-2-24	Test with appliance
	6.Xingda Electronics Wire & Cable Co.,Ltd.	1007	20AWG;300V; 80°C	EN 60335-1 EN 60335-2-24	UL E187208*
	7.Xingda Electronics Wire & Cable Co.,Ltd.	1007	18AWG;300V; 80°C	EN 60335-1 EN 60335-2-24	UL E187208*
	8.Xingda Electronics Wire & Cable Co.,Ltd.	1015	20AWG;600V; 105°C	EN 60335-1 EN 60335-2-24	UL E187208*
	9.Kunshan New Zhicheng Electronics Technologies Co.,Ltd.	1007	20AWG;300V; 80°C	EN 60335-1 EN 60335-2-24	UL E237831*

	10. Kunshan New Zhicheng Electronics Technologies Co.,Ltd.	1015	20AWG;600V; 105°C	EN 60335-1 EN 60335-2-24	UL E237831*
	11.Wenzhou Hutai Electric Wire & Cable Co.,Ltd.	1007	20AWG;300V	EN 60335-1 EN 60335-2-24	Test with appliance
	12.Wenzhou Hutai Electric Wire & Cable Co.,Ltd.	1015	20AWG;600V	EN 60335-1 EN 60335-2-24	Test with appliance
	13.Zhejiang Xinxin Electronic Wire Rod Co.,Ltd.	1007; 1015	18AWG;20AWG; 300V	EN 60335-1 EN 60335-2-24	Test with appliance
	14. Yuyao Jinsheng Electron Co.,Ltd.	1007; 1015	18AWG;20AWG; 300V	EN 60335-1 EN 60335-2-24	Test with appliance
Switch for BL-104A, BL-107A, BL-108A/B, BL-110A, BL-112A, BL-113A, BL-116A, BL-124A/B/C/D, BL-125C, BL-129C, BL-130A, BL-132A, BL-140A, BL-245A, BL-150A, BL-104B, BL-21105A, BL-21123X, BL-21126X, BL-21125X, BL-21129X	YuYao Beila Electrical Appliance Co.,Ltd.	3A250V 6A125V	DC12V;6A;T55; 10E3	EN 60335-1 EN 60335-2-24	Test with appliance
PCB control panel for BL-104A, BL-107A, BL-108A/B, BL-110A, BL-112A, BL-113A, BL-116A, BL-124A/B/C/D, BL-130A, BL-132A, BL-140A, BL-245A, BL-150A BL-129B, BL-125B, BL-225A, BL-104B, BL-21105A, BL-21123X, BL-21125X, BL-21126X BL-21129X	1.YuYao Beila Electrical Appliance Co.,Ltd.	JWBX-32L	Input:DC12V	EN 60335-1 EN 60335-2-24	Test with appliance

	2.YuYao Beila Electrical Appliance Co.,Ltd.	BL-32L	Input:DC12V	EN 60335-1 EN 60335-2-24	Test with appliance
Relay for BL-212A/B/C/D, BL-215A/B/C/D, BL-219A/B/C, BL-240A/B/C/D, BL-122A, BL-125A, BL-129A, BL-150A, BL-225A	1.ShenZhen Golden Electrical Appliances Co.,Ltd	GH-1C-09L	DC9V;T100; 5E4;10A	EN 61810-1	TUVRh 50158866
	2. ShenZhen Golden Electrical Appliances Co.,Ltd	GH-1C-12L	DC12V;T100; 5E4;10A	EN 61810-1	TUVRh 50158866
	3.Yuyao City Darun Relay Co.,Ltd.	DR-T73	12V or 9V;T85; 1E5;10A	EN 61810-1	TUVRh 50232213
Switching power supply for all models except BL-150A, BL-129B, BL-129C, BL-125B, BL-125C, BL-21123X, BL-21126X, BL-21125X, BL-21129X	Yuyao Linshan Jianwei Electric Factory	JWBX-12V5A-A; JWBX-12V5A-C -01	Input: AC220-240V, 50/60Hz; Max.0.8A Output: DC12V,5A	EN 61558-1 EN 61558-2-16	TUVRh 50423040
Switching power supply only for BL-104A, BL-108A/B, BL-110A, BL-113A, BL-116A, BL-107A, BL-112A, BL-113A, BL-124A/B/C/D, BL-130A, BL-132A, BL-140A, BL-122A, BL-125A/B/C, BL-129A/B/C, BL-150A, BL-104B, BL-21105A, BL-21123X, BL-21125X, BL-21126X BL-21129X	Yuyao Linshan Jianwei Electric Factory	JWBX-12V5A-C; JWBX-12V5A-CR	Input: AC220-240V, 50/60Hz; Max.0.8A Output: DC12V,5A	EN 61558-1 EN 61558-2-16	TUVRh 50423040

Switching power supply only for BL-104A, BL-108A/B, BL-110A, BL-113A, BL-116A, BL-122A, BL-21105A	Yuyao Linshan Jianwei Electric Factory	JWBX-12V4A-D-02	Input: AC220-240V, 50/60Hz; Output: DC12V,4A	EN 61558-1 EN 61558-2-16	TÜVRh 50443328
DC Fan for BL-124A/B/C/D, BL-130A, BL-132A, BL-140A, BL-240A/B/C/D, BL-245A, BL-150A, BL-129B, BL-129C BL-212A/B/C/D, BL-215A/B/C/D, BL-219A/B/C BL-104B, BL-21105A, BL-21123X, BL-21125X, BL-21126X, BL-21129X	1.Yuyao Yujie Electronics & Plastics Factory	YJ-9225	DC 12V;0.18A	EN 60335-1 EN 60335-2-24	Test with appliance
	2.Yuyao Yujie Electronics & Plastics Factory	YJ-12025	DC 12V; 0.20A	EN 60335-1 EN 60335-2-24	Test with appliance
	3.Yuyao Yujie Electronics & Plastics Factory	YJ-9225 (DC12V 0.24A)	DC 12V;0.24A	EN 60335-1 EN 60335-2-24	Test with appliance
DC Fan for BL-104A, BL-107A, BL-108A/B, BL-110A, BL-112A, BL-113A BL-116A, BL-122A, , BL-125A/B/C, BL-225A, BL-129A, BL-104B, BL-21105A, BL-21123X, BL-21125X, BL-21126X BL-21129X	1.Yuyao Yujie Electronics & Plastics Factory	YJ-9225	DC 12V;0.18A	EN 60335-1 EN 60335-2-24	Test with appliance
	2.Yuyao Yujie Electronics & Plastics Factory	YJ-9225 (DC12V 0.24A)	DC 12V;0.24A	EN 60335-1 EN 60335-2-24	Test with appliance

Cooling unit for BL-107A, BL-112A, BL-113A, BL-124A/B/C/D, BL-130A, BL-132A, BL-140A, BL-108A/B, BL-122A, BL-125A/B/C, BL-129A/B/C, BL-150A BL-104A, BL-110A, BL-116A BL-104B, BL-21105A, BL-21123X, BL-21125X, BL-21126X BL-21129X	1.Guangdong Fuxin electronic technology Co.,Ltd.	TEC1-12705; TEC1-12706	DC12V;max.5A	EN 60335-1 EN 60335-2-24	Test with appliance
	2.Changshan Wangu Technology Co., Ltd.	TEC1-12705; TEC1-12706	DC12V;max.5A	EN 60335-1 EN 60335-2-24	Test with appliance
	3. Guangdong Fu Shun Technology Co., Ltd.	TEC1-12705; TEC1-12706	DC12V;max.5A	EN 60335-1 EN 60335-2-24	Test with appliance
	4. Henan Jiuda Electronics Co., Ltd.	TEC1-12705; TEC1-12706	DC12V;max.5A	EN 60335-1 EN 60335-2-24	Test with appliance
	5.Hangzhou AoLing Refrigeration Equipment Co., Ltd.	TEC1-12705; TEC1-12706	DC12V;max.5A	EN 60335-1 EN 60335-2-24	Test with appliance
Cooling unit for all models except BL-107A, BL-112A, BL-113A, BL-124A/B/C/D, BL-130A, BL-132A, BL-140A, BL-108A/B, BL-122A, BL-125A/B/C, BL-129A/B/C, BL-150A BL-104A, BL-110A, BL-116A, BL-104B, BL-21105A, BL-21123X, BL-21125X, BL-21126X BL-21129X	1.Guangdong Fuxin electronic technology Co.,Ltd.	TEC1-12703	DC12V;max.4A	EN 60335-1 EN 60335-2-24	Test with appliance
	2.Changshan Wangu Technology Co., Ltd.	TEC1-12703	DC12V;max.4A	EN 60335-1 EN 60335-2-24	Test with appliance
	3. Guangdong Fu Shun Technology Co., Ltd.	TEC1-12703	DC12V;max.4A	EN 60335-1 EN 60335-2-24	Test with appliance

	4. Henan Jiuda Electronics Co., Ltd.	TEC1-12703	DC12V;max.4A	EN 60335-1 EN 60335-2-24	Test with appliance
	5. Hangzhou AoLing Refrigeration Equipment Co., Ltd.	TEC1-12703	DC12V;max.4A	EN 60335-1 EN 60335-2-24	Test with appliance
Insulation sleeve used on the 1005, 1007 internal wires that located between AC inlet and switching power supply	1. Shenzhen Woer Heat-shrinkable Material Co., Ltd.	RSFR; RSFR-H	600V;125°C	EN 60335-1 EN 60335-2-24	UL E203950*
	2. Dongguan Salipt Co., Ltd.	SALIPT S-901-600	600V;125°C	EN 60335-1 EN 60335-2-24	UL E209436*
	3. Dongguan Salipt Co., Ltd.	SALIPT S-901-300	300V;125°C	EN 60335-1 EN 60335-2-24	UL E209436*
Plastic enclosure	Zhejiang Mingri Holdings Group Co., Ltd.	P740J	PP	EN 60335-1 EN 60335-2-24	Test with appliance

For the mark of conformity with *, it means the components also tested with appliance accordingly
BS plug must be fitted with approved fuse-links having a rating appropriate to the cord fitted in accordance with table 2 of BS 1363-1.

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***			Note 1	Note 2	P
4'000	3.0 / 3.5***					N/A
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 the value is increased by 0.5 mm. Reinforced: SELV – Live parts on PCB: Cl.=7.8mm > 3.5mm Functional: L-N on PCB: Cl.=4.2mm > 2.0mm						

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			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	Verdict
≤50	0.18	0.60	0.85	1.2	1.5	1.7	1.9		—	—	N/A
≤50	0.18	0.60	0.85	1.2	1.5	1.7	1.9	—		—	N/A
≤50	0.36	1.20	1.70	2.4	3.0	3.4	3.8	—	—		N/A
125	0.28	0.75	1.05	1.5	1.9	2.1	2.4		—	—	N/A
125	0.28	0.75	1.05	1.5	1.9	2.1	2.4	—		—	N/A
125	0.56	1.50	2.10	3.0	3.8	4.2	4.8	—	—		N/A
250	0.56	1.25	1.80	2.5	3.2	3.6	4.0		—	—	N/A
250	0.56	1.25	1.80	2.5	3.2	3.6	4.0	—		—	N/A
250	1.12	2.50	3.60	5.0	6.4	7.2	8.0	—	—	Note	P
400	1.00	2.00	2.80	4.0	5.0	5.6	6.3		—	—	N/A
400	1.00	2.00	2.80	4.0	5.0	5.6	6.3	—		—	N/A
400	2.00	4.00	5.60	8.0	10.0	11.2	12.6	—	—		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 Note: SELV – Live parts on PCB: Cr.=9.2mm > 8.0mm											

29.2	TABLE: Creepage distances, functional insulation							P
Working voltage (V)	Creepage distance (mm) Pollution degree							
	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	Verdict / Remark
≤10	0.08	0.4	0.4	0.4	1.0	1.0	1.0	N/A
50	0.16	0.56	0.8	1.0	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
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
Supplementary information: * Material group IIIb is allowed if the working voltage does not exceed 50 V Note: L-N on PCB: Cr.=4.2mm > 3.2mm								

**ATTACHMENT TO TEST REPORT IEC 60335-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Household and similar electrical appliances – Safety –
Part 1: GENERAL REQUIREMENTS

Differences according to.....: EN 60335-2-24:2010
EN 60335-1:2012 + A11+A13
EN 62233:2008

Attachment Form No.: EU_GD_IEC60335_2_24P

Attachment Originator: Electrosuisse

Master Attachment: 2016-03

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IEC60335_2_24P - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
CENELEC COMMON MODIFICATIONS			
6.1	Delete "class 0" and "class 01"		P
7.1	Single-phase appliances to be connected to the supply mains: 230 V covered		P
	Multi-phase appliances to be connected to the supply mains: 400 V covered		N/A
7.10	Devices used to start/stop operational functions of the appliance distinguished from other manual devices by means of shape, size, surface texture, position, etc.		P
	An indication that the device has been operated is given by:		—
	a tactile feedback, or		N/A
	an audible and visual feedback		P
7.12	The instructions include the substance of the following:		—
	- this appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved		P
	- children shall not play with the appliance		P
	- cleaning and user maintenance shall not be made by children without supervision		P
7.12.Z1	The specific instructions related to the safe operation of this appliance is collated together in the front section of the user instructions		P
	The height of the characters, measured on the capital letters, is at least 3 mm		P
	These instructions are also available in an alternative format, e.g. on a website		P
8.1.1	Also test probe 18 of EN 61032 is applied	Small joint finger probe	P
	The appliance being in every possible position during the test		P
	The force on the probe in the straight position is increased to 10 N when probe 18 is used		P
	When using test probe 18 the appliance is fully assembled as in normal use without any parts removed, and		P
	parts intended to be removed for user maintenance are also not removed		P
8.2	Compliance is checked by applying the test probes of EN 61032		P

IEC60335_2_24P - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	For built-in appliances and fixed appliances, the test probe B and probe 18 of EN 61032 are applied only after installation		N/A
20.2	When using the test probe similar to test probe B with a circular stop face, the accessories and detachable covers are removed		P
	Test probe 18 applied with a force of 2.5 N on the appliance fully assembled	Small joint finger probe	P

EN 60335-2-24:2010/A1			
Clause	Requirement - Test	Result - Remark	Verdict
7	MARKING AND INSTRUCTIONS		P
7.1	Replace the fifth dashed item of the first paragraph of the addition by the following:		N/A
	– the maximum rated wattage of lamps, in watts (not applicable if the lamps can only be replaced by the manufacturer, together with a part of the appliance);		N/A
7.6	Replace Symbol ISO 3864-B.3.2 and its associated text		N/A
7.12	Replace the first paragraph of the addition by the following:		N/A
	Instructions shall include the method for replacing illuminating lamps, if the lamps can be replaced by the user.		N/A
	Add the following paragraph after the third paragraph:		P
	Children aged from 3 to 8 years are allowed to load and unload refrigerating appliances.		P
7.14	Add the following new paragraph:		P
	The height of the letters used for the marking of the type of flammable insulation blowing gas shall be at least 40 mm.		P
7.15	Replace the first paragraph of the addition by the following:		N/A
	The marking of the maximum rated wattage of illuminating lamps that can be replaced by the user shall be easily discernible while the lamp is being replaced.		N/A
7.Z101	Add the following new subclause:		P
	The instructions shall contain details on the use of the appliance to ensure the safe preservation of foodstuffs.		P
	Manufacturers should give details on the most appropriate part in the compartment of the appliance where specific types of food shall be stored, considering the distribution of temperature that can be present in the different compartments of the appliance.		P
	The instructions shall include the substance of the following:		P
	To avoid contamination of food, please respect the following instructions:		P
	– Opening the door for long periods can cause a significant increase of the temperature in the compartments of the appliance.		P
	– Clean regularly surfaces that can come in contact with food and accessible drainage systems.		P

EN 60335-2-24:2010/A1			
Clause	Requirement - Test	Result - Remark	Verdict
	– Clean water tanks if they have not been used for 48 h; flush the water system connected to a water supply if water has not been drawn for 5 days.	No water tanks and water system	N/A
	– Store raw meat and fish in suitable containers in the refrigerator, so that it is not in contact with or drip onto other food.	Not allowed to store raw meat and fish in the appliance	N/A
	– Two-star frozen-food compartments are suitable for storing pre-frozen food, storing or making ice-cream and making ice cubes.		N/A
	– One-, two- and three-star compartments are not suitable for the freezing of fresh food.		N/A
	– If the refrigerating appliance is left empty for long periods, switch off, defrost, clean, dry, and leave the door open to prevent mould developing within the appliance.		P
	Compliance is checked by inspection.		P
22	Construction		P
22.40	Addition:		N/A
	Ice-cream appliances and ice-makers shall be fitted with an accessible switch to stop all functions of the appliance.		N/A
22.Z101	Drawers of refrigerating appliances that are provided with sliding devices shall be fitted with stops to prevent them inadvertently falling out.		N/A
	Compliance is checked by inspection.		N/A
22.Z102	Appliances shall be constructed so that lubricants are prevented from polluting food compartments.	No lubricants	N/A
	Compliance is checked by inspection.		N/A
22.Z104	All surfaces that can get in contact with food (including “splash areas”) shall be durable, cleanable, without breaks, resistant to cracking, chipping, flaking and abrasion.		P
	NOTE 1 The splash area comprises surfaces on which part of the food can splash or flow during normal use, but this food does not become part of the product (e.g. ice-cream).		P
	All other surfaces shall be durable and cleanable.		P
	Internal angles, seams and corners that can get in contact with food shall be effectively cleanable.		P
	Joints that can get in contact with food shall be sealed and hygienic.		P
	NOTE 2 Guidance can be found in EN 1672-2.		P
	Compliance is checked by inspection.		P
22.Z105	Any internal water dispensing system shall be		N/A
	– accessible for cleaning; or		N/A

EN 60335-2-24:2010/A1			
Clause	Requirement - Test	Result - Remark	Verdict
	– designed to permit manual cleaning or flushing with water or other appropriate liquid in accordance with the manufacturer's instructions.		N/A
	The above requirements are not applicable to self-cleaning systems or chemical dosing systems		N/A
	Compliance is checked by inspection.		N/A
29	Clearances, creepage distances and solid insulation		P
29.2	Add the following sentence to the addition:		P
	This requirement is not applicable for functional insulation if the working voltage does not exceed 50 V.		P

EN 60335-2-24:2010/A2			
Clause	Requirement - Test	Result - Remark	Verdict
5	General conditions for the tests		P
5.3	Replace the last paragraph of the addition by the following:		P
	The tests of 15.101.1, 15.101.2, 15.103 and 15.104 are carried out immediately after the test of 15.2.		P
7	Marking and instructions		N/A
7.1	In the first paragraph, third dashed item, delete "only".		N/A
	In the first paragraph, fifth dashed item, add "or its service agent" after "manufacturer".		N/A
	In the eleventh paragraph, replace "the symbol "Caution: risk of fire" with "the symbol ISO 7010 W021".		N/A
7.6	In the note, replace "the symbol "Caution: risk of fire" with "the symbol ISO 7010 W021".		N/A
7.12	Add the following:		P
	If symbol ISO 7010 W021 is used, its meaning shall be explained.		N/A
	The instructions for refrigerating appliances and ice-makers shall include the substance of the following:		P
	WARNING: When positioning the appliance, ensure the supply cord is not trapped or damaged.		P
	WARNING: Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.		P
7.14	In the first paragraph, replace "the symbol "Caution: risk of fire" with "the symbol ISO 7010 W021".		N/A
7.15	In the second paragraph, replace "the symbol "Caution: risk of fire" with "the symbol ISO 7010 W021".		N/A
15	MOISTURE RESISTANCE		P
	Replace Subclauses 15.101, 15.102 and 15.103 by the following:		P
15.103	Appliances, other than built-in appliances, ice-makers and ice-cream appliances, are tilted at an angle of up to 2°		P
	Test with 0.5 l spillage solution over the top of the appliance		P
20	Stability and mechanical hazards		P
20.101	In the last paragraph of the test specification, replace "tip" by "tilt by more than 2° from the horizontal position".		P

EN 60335-2-24:2010/A2			
Clause	Requirement - Test	Result - Remark	Verdict
20.104	Replace the second paragraph by the following:		N/A
	Each sliding drawer accessible without opening a door is loaded with a uniformly distributed load/unit storage volume of the compartments of 0,5 kg/l.		N/A
21	Mechanical strength		N/A
21.1	Addition:		N/A
	For accessible glass panels, the impact energy is 1,00 J $\pm$ 0,05 J.		N/A
22	Construction		N/A
22.109	Add the following to the end of fourth paragraph of the test specification:		N/A
	"using a capillary tube having a diameter of 0,7 mm $\pm$ 0,05 mm."		N/A
	Add the following before the existing penultimate paragraph of the test specification:		N/A
	If the electrical component under consideration is situated within a separate enclosure and if the refrigerant can stagnate within that enclosure, then the direction of refrigerant injection shall be from the pipework joint under consideration towards any opening (such as ventilation slots or cable entry ducts) in the separate enclosure.		N/A
22.110	In the requirement, replace "ignition" by "auto-ignition".		N/A
	Replace Table 102		N/A
22.116	Replace the existing text by the following:		N/A
	Accessible glass panels with an area having any two orthogonal dimensions exceeding 75 mm shall be made from		N/A
	glass that breaks into small pieces when it fractures, or		N/A
	glass that is not released or dropped from its normal position when broken		N/A
	This requirement does not apply to glass panels inside the appliance with enhanced mechanical strength		N/A
	a) glass that breaks tested as specified		N/A
	b) glass that is not released or dropped tested as specified		N/A
	c) glass with enhanced mechanical strength tested as specified		N/A
23	Internal wiring		N/A
23.3	Add the following to the modification, as a new paragraph:		N/A

EN 60335-2-24:2010/A2			
Clause	Requirement - Test	Result - Remark	Verdict
	The number of flexings for conductors flexed during normal use of an incorporated ice maker is increased to 50 000.		N/A

Differences from EN 60335-1:2012+A11+A13 to EN 60335-1:2012+ A11+ A13+ A1+A14+A2			
Clause	Requirement - Test	Result - Remark	Verdict
	CENELEC COMMON MODIFICATIONS (EN)		
6.1	For a class III construction with a detachable power supply part the appliance is classified according to the detachable power supply part		N/A
7.1	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth		N/A
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only, or		N/A
	for appliances powered by rechargeable batteries recharged in the appliance		N/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible		P
	Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram		N/A
7.6	Correct symbols used		P
7.8	Marking of functional earthing terminals (symbol IEC 60417-5018)		N/A
7.10	A push-push button switch used for start and stop the operation shall not be used for other functions such as changing the motor speed.		N/A
	For hand-held appliances with rated power input 50 W or lower it is acceptable to have a push-push button for different functions including on / off if there is an immediate feedback to the user e.g. by tactile feedback or audible and visible feedback.		N/A
	Where a push button can cycle through various modes during a prolonged push this is allowed as long as the appliance will switch off with a single short push action.		N/A
	Audible feedback is any audible response got immediately after the operation of the switch.		P
	The click of a switch can be accepted as an audible feedback provided that it is originated inside the switch that is operated and can be heard at a distance of 77 cm from the switch.		N/A
	The sound of the motor is regarded as an audible feedback.		P
	Add the following text after the third paragraph of the addition: Constructions with switches that have two different stable positions (meaning that it can be seen or felt when they have been pressed or rotated) are considered to have a tactile feedback		P

Differences from EN 60335-1:2012+A11+A13 to EN 60335-1:2012+ A11+ A13+ A1+A14+A2			
Clause	Requirement - Test	Result - Remark	Verdict
7.12	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated.....:		N/A
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only		N/A
7.12.1	If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance		P
7.12.9	Instructions specified in 7.12 and from 7.12.1 to 7.12.8 appear together before any other instructions supplied with the appliance		P
	These instructions may be supplied with the appliance separately from any functional use booklet		N/A
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches		N/A
	In addition, instructions are also available in an alternative format such as on a website or on request from the user in a format such as a DVD		P
7.14	Markings clearly legible and durable:		P
	Signal words WARNING, CAUTION, DANGER in uppercase having a height as specified:		N/A
	Uppercase letter of the text explaining the signal word not smaller than 1,6 mm:		N/A
	Moulded in, engraved, or stamped markings either raised above or have a depth below the surface of at least 0,25 mm, unless		N/A
	contrasting colours are used		N/A
	Markings checked by inspection, measurement and rubbing test as specified		P
7.15	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180		N/A
8.1.1	Also test probe 18 of EN 61032 is applied		P
	The appliance being in every possible position during the test, except that		P
8.1.3	Instead of test probe B, test probe 18 and test probe 13, for appliances other than those of class II, test probe 41 of IEC 61032 is applied with a force not exceeding 1 N to live parts of visibly glowing heating elements, all poles of which can be disconnected by a single switching action		N/A
	For a single switching action obtained by a switching device, requirements as specified		N/A
	For appliances with a supply cord and without a switching device, the single switching action may be obtained by the withdrawal of the plug		N/A

Differences from EN 60335-1:2012+A11+A13 to EN 60335-1:2012+ A11+ A13+ A1+A14+A2			
Clause	Requirement - Test	Result - Remark	Verdict
10.1	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		P
10.2	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
20.2	For appliances having dangerous moving parts, due to their working function, e.g. the needle of a sewing machine, tools of kitchen machines or the blade of an electrical knife, full protection is not possible for performing their intended use		N/A
22.5	No risk of electric shock when touching pins, for appliances having a capacitor with rated capacitance equal to or greater than 0,1µF, the appliance being disconnected from the supply at the instant of voltage peak		P
	Voltage not exceeding 34 V (V)		P
	If compliance relies on the operation of an electronic circuit, the electromagnetic phenomena tests of 19.11.4.3 and 19.11.4.4 are applied		N/A
	The discharge test is then repeated three times, voltage not exceeding 34 V (V)		N/A
22.12	Handles, knobs etc. fixed in a reliable manner, if loosening result in a hazard		P
	Removing or fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible, if resulting in a hazard		P
	A choking hazard does not apply to appliances for commercial use		N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		P
	If the part is removed and can be contained within the small parts cylinder, it is considered to be a choking hazard		N/A

Differences from EN 60335-1:2012+A11+A13 to EN 60335-1:2012+ A11+ A13+ A1+A14+A2			
Clause	Requirement - Test	Result - Remark	Verdict
	Other parts intended to be detached during use, maintenance or cleaning (e.g. batteries, battery covers, lids, attachments, steam nozzles) are not considered as parts providing a similar function as handles, knobs, grips, levers		N/A
22.17	The requirement is not applicable to built-in appliances		N/A
22.32	Ceramic and similar porous material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		N/A
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, or		P
	unearthed metal parts separated from live parts by basic insulation only		N/A
22.35	This requirement does not apply to handles, levers and knobs on stationary appliances and cordless 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		N/A
22.53	Class II appliances and class III appliances that incorporate functionally earthed parts have at least double insulation or reinforced insulation between live parts and the functionally earthed parts		N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless		N/A
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A
22.55	Devices operated to stop the intended function of the appliance, if any, are distinguished from other manual devices by means of shape, size, surface texture or position		P
	The requirement concerning position does not preclude use of a push on push off switch		N/A
	An indication when the device has been operated is given by:		P
	– tactile feedback from the actuator or from the appliance, or		N/A
	– reduction in heat output; or		N/A
	– audible and visible feedback		P
22.56	Detachable power supply part provided with the part of class III construction		N/A
22.57	The properties of non-metallic materials do not degrade from exposure to UV-C radiation, as specified in Annex T		N/A
	This requirement does not apply to glass, ceramics or similar materials		N/A

Differences from EN 60335-1:2012+A11+A13 to EN 60335-1:2012+ A11+ A13+ A1+A14+A2			
Clause	Requirement - Test	Result - Remark	Verdict
23.5	A single layer of internal wiring insulation does not provide reinforced insulation		P

Annex 1 of 50086521 004

PAH Material List (to be filled by the manufactory)

Material list for PAH risk assessment, only materials accessible without tools or having foreseeable contact with food shall be listed

Material #	Location / Function of the material	Name / Description of the material	Evidence attached. Institute, report no., date	Category	Smell	Rigidity	Colour
1	Plastic enclosure	Plastic	----	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☐ Flexible ☒ Rigid	☒ Black or dark-colored ☐ White or light-colored
2	Switch and button	Plastic	----	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☐ Flexible ☒ Rigid	☒ Black or dark-colored ☐ White or light-colored
3	Handle	Plastic/Black	TÜV-Rheinland/CCIC Co., Ltd. 180189016a 001	☐ 1 ☒ 2 ☐ 3	☐ Yes ☒ No	☐ Soft ☐ Flexible ☒ Rigid	☒ Black or dark-colored ☐ White or light-colored
4	Power cord	PVC, black	----	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☒ Flexible ☐ Rigid	☒ Black or dark-colored ☐ White or light-colored
5	Power plug	Plastic, black	----	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☐ Flexible ☒ Rigid	☒ Black or dark-colored ☐ White or light-colored

I herewith declare that the above listed materials are used in our product submitted to GS-certification and conform with the attached PAH test reports.

Product Identification: Electric Cooler & Warmer

Type:

BL-104B, BL-21105A, BL-21123X, BL-21126X, BL-21125X, BL-21129X

Annex 2: Information from GS test center

Material list for PAH risk assessment; Only materials accessible without tools

Product designation: Electric Cooler & Warmer

Certificate No.: S 50482332 0003Test report No.: 50086521 004

Material / Component #	Location / Function of the material	Name / Description of the material	PAH relevant 1)	Evidence attached. Institute, report no., date	Category	Smell	Rigidity	Colour	Correction of data by test center? 1)	Chem. test needed?	Test result (within the given limits)	Attachement
1	Plastic enclosure	Plastic	☒ Yes ☐ No	---	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☐ Flexible ☒ Rigid	☒ Black or dark-colored ☐ White or light-colored	☒ No ☐ Yes	☒ No ☐ Yes	☐ passed ☐ failed	---
2	Switch and button	Plastic	☒ Yes ☐ No	---	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☒ Flexible ☐ Rigid	☒ Black or dark-colored ☐ White or light-colored	☒ No ☐ Yes	☒ No ☐ Yes	☐ passed ☐ failed	---
3	Handle ,	Plastic/ Black	☒ Yes ☐ No	TÜV-Rheinland/CCIC Co.,Ltd. 180189016a 001	☐ 1 ☒ 2 ☐ 3	☐ Yes ☒ No	☐ Soft ☐ Flexible ☒ Rigid	☒ Black or dark-colored ☐ White or light-colored	☒ No ☐ Yes	☐ No ☒ Yes	☒ passed ☐ failed	---
4	Power cord	PVC, black	☒ Yes ☐ No	---	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☒ Flexible ☐ Rigid	☒ Black or dark-colored ☐ White or light-colored	☒ No ☐ Yes	☒ No ☐ Yes	☐ passed ☐ failed	---
5	Power plug	Plastic, black	☒ Yes ☐ No	---	☐ 1 ☐ 2 ☒ 3	☐ Yes ☒ No	☐ Soft ☐ Flexible ☒ Rigid	☒ Black or dark-colored ☐ White or light-colored	☒ No ☐ Yes	☒ No ☐ Yes	☐ passed ☐ failed	---

1) Enter all PAH considered materials.

2) Applicant data from Annex 1

Assessed by name

Place Ningbo China, Date 2021-12-01


(Test engineers signature)

Risk assessment for the above mentioned product indicates PAH relevance :

☒ Yes ¹⁾☐ No☐ Short statement

Rev. 4 on 2008-07-10



Report No.:	ABZK-ESH-P22080116	Date:	2022-08-31	Type:	Portable thermoelectric cooler&warmer BL-21123X
Test Report - Household refrigeration appliance	Testing institute:		Manufacturer:		
	LCIE CHINA Company Limited Building 4, No. 518, Xin Zhuan Road, Caohejing Songjiang High-Tech Park, Shanghai, P.R.C (201612)				
(Requirements from EN 62552-1:2020 EN 62552-2:2020 EN 62552-3:2020 and (EU) 2019/2019 (EU) 2019/2016 (EU) 2021/341 (EU) 2021/340)	Tested by:	Sun Di	Approved by:	Rex ZHOU	
	Signature:		Signature:		

Supplier name:	
Model identifier:	BL-21123X
Name and address of factory	

Low-noise appliance:	No	Efficiency class:	E
Wine storage appliance:	No	Energy efficiency index EEI:	93.8
Other refrigerating appliance:	Yes	Standard annual energy consumption [kWh/a]:	75.92
Design type:	Freestanding	Climate class:	N
Number of external doors:	1	Min. temperature* [°C]:	16
Winter setting:	No	Max. temperature* [°C]:	32
Fast freezer facility:	No	Combi parameter:	1.00
Anti-condensation heater type:	None	Load factor:	1.0
		Door heat loss factor:	1.0

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



Report No.: ABZK-ESH-P22080116

Overall dimensions [mm]:

H		W		D
441	X	437	X	300

All appliances	Decl.	Tested
Total volume [L]:	22	22.0

Wine coolers	Decl.	Tested
Bottle capacity [pcs]:	NA	NA
Temp. fluctuation test passed?		NA
Relative humidity test passed?		NA

Compartment	Type	Defrosting type [auto=A, manual=M]	Star rating	Volume [L]:	Recommended temperature setting [°C]	Storage test passed?	
						High temp.	Low temp.
1	4-star	NA	4	NA	≤-18	NA	NA
2	3-star	NA	3	NA	≤-18	NA	NA
3	2-star	NA	2	NA	≤-12	NA	NA
4	1-star	NA	1	NA	≤-6	NA	NA
5	0-star/ice-making	NA	NA	NA	≤ 0	NA	NA
6	Chill	NA	NA	NA	-3 - +3	NA	NA
7	Fresh Food	NA	NA	NA	0 - +4	NA	NA
8	Wine storage	NA	NA	NA	+5 - +20	NA	NA
9	Cellar	NA	NA	NA	+2 - +14	NA	NA
10	Pantry	M	NA	22.0	+14 - +20	Yes	Yes
11	2-star section	NA	NA	NA	≤-12	NA	NA
12	Variable temperature compartment	NA	NA	NA	-	NA	NA

Energy consumption 16°C ambient temperature	Tested
Incremental defrost energy consumption ΔE_{df} [Wh]:	NA
Defrost and recovery interval Δt_{df} [Wh]:	NA
Energy consumption E_{16} [kWh/d]:	0.012

Energy consumption 32°C ambient temperature	Tested
Incremental defrost energy consumption ΔE_{df} [Wh]:	NA
Defrost and recovery interval Δt_{df} [Wh]:	NA
Energy consumption E_{32} [kWh/d]:	0.378

Energy consumption 25°C ambient temperature (low noise appliances)	Tested
Incremental defrost energy consumption ΔE_{df} [Wh]:	NA
Defrost and recovery interval Δt_{df} [Wh]:	NA
Energy consumption E_{25} [kWh/d]:	NA

Auxiliary energy consumption [kWh/a]	NA
Tested ☐	Calculated ☐

Annual energy consumption AE [kWh/a]	Tested	Passed?
	71.18	Yes

* Minimum/Maximum ambient temperature [°C] for which the refrigerating appliance is suitable.

❖ For the details of the testing / test sample, please refer to the following pages.

Other performance characteristics	Tested	Passed?
Temperature rise time [h]:	NA	NA
Freezing capacity [kg/24h]:	NA	NA
Noise emission [dB(A)]:	53.37	Yes
Noise emission class:	D	Yes
Ice-making capacity [kg/24h]:	NA	NA

Circumvention	Case
Circumvention measures suspected?	No
Tests carried out to evaluate possible circumvention devices?	No



Report No.: ABZK-ESH-P22080116

COPY OF RATING PLATE:

BL-21123X
AC 220-240V 50Hz Kühlen: 55W Warmhalten: 46W
DC12V  Kühlen: 42W Warmhalten: 34W
Klimaklasse: N
Chemische Bezeichnung des Isolationsgases: C5H10
Total Volume: 22L
Pantry Compartment Volume: 22L
Energy Consumption of E32: 0.395 kWh/24h
Annual Energy Consumption: 75 kWh/a



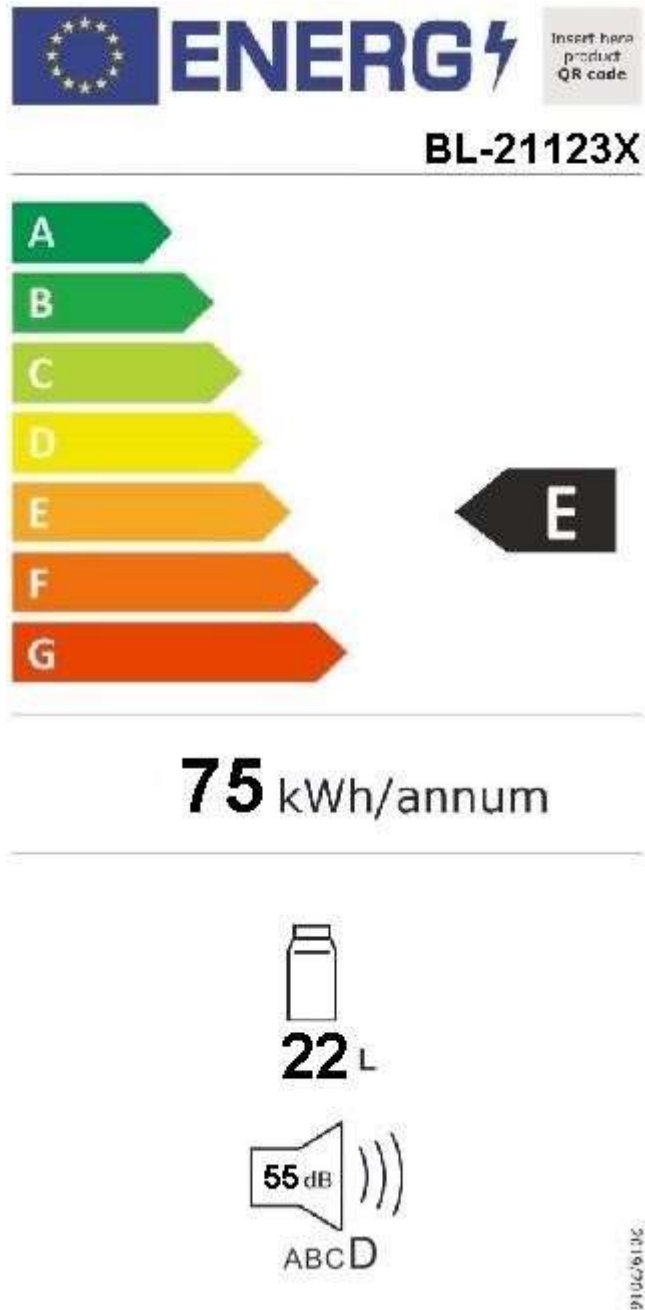
NOTE 1: The appliance for household and indoor use only. No defrosting function included. Use semiconductor heating and cooling sheet for cooling or heating.

NOTE 2: According to the applicant's request, storage test, energy consumption, volume test were suitable for the appliance, and the tests were carried out on BL-21123X with cold function supplied by 230V 50Hz. Airborne acoustical noise emissions was also measured (Annex 3: Sound power level test).



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LABEL:



PICTURE OF THE SAMPLE TESTED





Tested with cold function



Report No.: ABZK-ESH-P22080116

Product Information Sheet

Supplier's name or trade mark:					
Supplier's address :					
Model identifier:		BL-21123X			
Type of refrigerating appliance:					
Low-noise appliance:		No	Design type:		freestanding
Wine storage appliance:		No	Other refrigerating appliance:		Yes
General product parameters:					
Parameter		Value	Parameter		Value
Overall dimensions (mm)	Height	441	Total volume (dm ³ or l)	22	
	Width	437			
	Depth	300			
EEI		99	Energy efficiency class		E
Airborne acoustical noise emissions (dB(A) re 1 pW)		55	Airborne acoustical noise emission class		D
Annual energy consumption (kWh/a)		75	Climate class		N
Minimum ambient temperature (°C), for which the refrigerating appliance is suitable		16	Maximum ambient temperature (°C), for which the refrigerating appliance is suitable		32
Winter setting		No			
Compartment Parameters:					
Compartment type		Compartment parameters and values			
		Compartment Volume (dm ³ or l)	Recommended temperature setting for optimised food storage (°C) These settings shall not contradict the storage conditions set out in Annex IV, Table 3	Freezing capacity (kg/24 h)	Defrosting type (auto-defrost = A, manual defrost = M)
Pantry	Yes	22	17	—	M
Wine storage	No	—	—	—	—
Cellar	No	—	—	—	—
Fresh food	No	—	—	—	—
Chill	No	—	—	—	—



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0-Star or ice-making	No	—	—	—	—
1-star	No	—	—	—	—
2-star	No	—	—	—	—
3-star	No	—	—	—	—
4-star	No	—	—	—	—
2-star section	No	—	—	—	—
Variable temperature compartment	compartment types	—	—	—	—
For 4-star compartments					
Fast freeze facility			No		
-					
For wine storage appliances					
Number of standard wine bottles			—		
-					
Light source parameters					
Type of light source			NA		
Energy efficiency class			NA		
Note: -					
Additional information: —					
Weblink to the manufacturer's website, where the information in point 4 Annex II of Commission Regulation (EU) 2019/2019 is found:					



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Additional information to be included in the technical documentation

General product specifications:								
Parameter	Value			Parameter	Value			
Annual energy consumption (kWh/a)	75			EEl (%)	99			
Standard annual energy consumption (kWh/a)	75.92			Combi parameter	1.00			
Temperature rise time (h)	—			Load factor	1.0			
Door heat loss factor	1.0			Climate class	N			
Anti-condensation heater type	none			Airborne acoustical noise emissions (dB(A) re 1 pW)	55			
Additional product specifications for refrigerating appliances, except for low noise refrigerating appliances:								
Parameter	Value							
Daily energy consumption at 32 °C (kWh/24h)	0.395							
Additional product specifications for low noise refrigerating appliances:								
Parameter	Value							
Daily energy consumption at 25 °C (kWh/24h)	—							
Additional product specifications for wine storage appliances								
Parameter	Value			Parameter	Value			
Internal humidity (%)	—			Number of bottles	—			
Compartment specifications:								
Compartment type	Compartment parameters and values							
	Target temperature (°C)	Com partment volume (dm³ or l)	Freezing capacity (kg/24 h)	Thermodynamic parameter (rc)	Nc	Mc	Defrost factor (Ac)	Built-in factor (Bc)
Pantry	17	22	—	0.35	75	0.12	1.00	1.00
Wine storage	—	—	—	—	—	—	—	—
Cellar	—	—	—	—	—	—	—	—
Fresh food	—	—	—	—	—	—	—	—
Chill	—	—	—	—	—	—	—	—
0-Star or ice-making	—	—	—	—	—	—	—	—
1-star	—	—	—	—	—	—	—	—
2-star	—	—	—	—	—	—	—	—
3-star	—	—	—	—	—	—	—	—



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4-star								
2-star section	—	—	—	—	—	—	—	—
Variable temperature compartment	—	—	—	—	—	—	—	—
The sum of the volumes of the chill compartment(s) and the unfrozen compartment(s) [L or dm ³]	—	22	—	—	—	—	—	—
The sum of the volumes of the frozen compartment(s) [L or dm ³]	—	—	—	—	—	—	—	—
Additional information:								
The references of the harmonised standards or other reliable accurate and reproducible methods applied:						EN 62552-1:2020 EN 62552-2:2020 EN 62552-3:2020		
A list of all equivalent models, including model identifiers:								

EN 62552-1			
Clause	Requirement + Test	Result - Remark	Verdict

4	CLASSIFICATION		P
	Refrigerating appliance classified into four climate classes or into a range of classes		P
	SN - Extended temperate (+10 to +32)°C		NA
	N - Temperate (+16 to +32)°C.....		P
	ST - Subtropical (+16 to +38)°C		NA
	T - Tropical (+16 to +43)°C		NA

5	MARKING		P
5.1	The information is marked in a permanent and legible manner		P
5.2	Identification of frozen compartments		NA
5.3	Load limit lines		NA

6	TECHNICAL AND COMMERCIAL PRODUCT INFORMATION		P
6.1	In technical and commercial product information all declared performance data (together with the relevant measurement units) are according to the standard.		P
6.2	Determination of linear dimensions		P

7	INSTRUCTIONS		P
	Refrigerating appliance is provided with instructions for its installation, use and user maintenance and safe disposal, in the language of the country where it is for sale		P

Annex A	TEST ROOM AND INSTRUMENTATION		P
A.2	Instruments, accuracy and precision of measurements		P
A.3	General test conditions		P
A.3.1	A number of parameters is kept constant as well as kept close to a target value during the test., e.g. ambient temperature or supply voltage as required in A.3.2.2 and A.3.3.		P
A.3.2	Ambient temperatures		P
A.3.2.1	Ambient temperatures are measured using copper or brass masses (see A.2.6 and A.4.5).		P
A.3.2.2	The time averaged value is within $\pm 0,5$ K of the test ambient temperatures.....:		P

EN 62552-1			
Clause	Requirement + Test	Result - Remark	Verdict
A.3.2.3	For products rated for multiple climate classes, tests are performed at the extreme ambient temperatures only of all the relevant rated classes.		NA
	For low noise refrigerating appliance energy consumption test shall be done at 25 °C		NA
A.3.3	Electricity supply		P
A.3.4	Refrigerating appliances other than those for electric power supply are tested under supply conditions corresponding to the information marked on the appliance.		NA
A.3.5	Refrigerating appliances that are equipped for operation on energy sources other than or in addition to mains power are tested at each of the supply conditions indicated on the appliance.		NA
A.3.6	Humidity max 75 %.	50%	P
	For tests at 10 °C ambient temperature this relative humidity limit does not apply.		NA
	For energy tests at an ambient temperature of 16 °C, the test result is invalid if the measured ambient relative humidity exceeds 75 % during the test and condensation is visible as droplets or running water		NA
A.4	Test room configuration		P

Annex B	PREPARATION OF AN APPLIANCE FOR TESTING AND GENERAL MEASUREMENT PROCEDURES		P
B.2.2	For verification testing, prior to commencement of its first average power consumption measurement, the appliance have been run in for at least 12 h compressor run time.		NA
	Non-compressor based appliances are operated for at least 12 h prior to energy consumption measurements.		P
B.2.3	Installation of the appliance in the test room		P
B.2.4	An appliance combined with an appliance other than a refrigerating appliance is subjected to the tests and measurement while they are combined, but with the other appliance operating at the lowest possible user selectable energy consuming conditions, including "off" or not functioning.		NA
B.2.5	Setting up		P
B.2.5.1	Except as specified, all internal fittings including drawers, bins and containers supplied with the appliance is put in position.		P

EN 62552-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Any specific variations in any test procedure in IEC 62552-2 or IEC 62552-3 may override B.2.5.1 a), b), c) or d).		P
B.2.5.2	Where the compartment is a variable temperature compartment type (that spans the operating range of several compartment types), it shall be classified:		NA
	a) For the storage test: Each variable temperature compartment shall be capable of maintaining specified internal temperatures for each claimed compartment type		NA
	b) For the cooling capacity test: If the variable temperature compartment can be used as a fresh food compartment, it shall be operated as fresh food compartment type where this test is performed.		NA
	c) For the freezing capacity and temperature rise time test: if the variable temperature compartment can be used as a 3-star or 4-star compartment, it shall be operated as a 3-star or 4-star compartment type where this test is performed.		NA
	d) For the energy consumption, water vapour condensation and ice-making capacity test, as applicable.		NA
	The variable temperature compartment shall operate as the compartment type which has the highest energy consumption for the energy test.		NA
	In the energy consumption test, where a refrigerating appliance has variable temperature compartments that can operate as more than one compartment type, additional compartment classifications may be tested, if required, in addition to the primary classification specified above.		NA
B.2.5.3	User-adjustable features are treated as indicated in the standard.		NA
B.2.6	Automatic ice makers		NA
	For all tests the storage bin remains in place.		NA
	For all tests, whether or not there is ice in the storage bin, the ice delivery mechanism remains functional.		NA
B.2.7	On commencement of testing compartments is empty, free of surface frost and free of moisture.		P
	Means of access (doors, drawers and lids etc.) is kept closed.		P
Annex C	TEST PACKAGES		NA
	Test packages are regularly checked and doesn't have visible holes or cracks on the wrapper.		NA

EN 62552-1			
Clause	Requirement + Test	Result - Remark	Verdict

Annex D	DETERMINATION OF COMPARTMENT AVERAGE AIR TEMPERATURES		P
	The positions specified for a temperature sensor is the geometric centre of the sensor (metal mass) except where minimum clearances are specified (in which case clearance is to the outer surface of the metal mass).		P
	Average air temperatures of compartment measured with suitable devices (e.g. thermocouples on metal mass) and as indicated in the standard.		P
	A sketch to illustrate the locations of sensors for measuring air temperatures in all compartments is recorded in the test report.	See Annex 2	P

Annex G	WINE STORAGE APPLIANCES		NA
G.3	Requirements		NA
G.3.1	The appliance has a continuous storage temperature, either pre-set or set manually according to the instructions, in the range from $T_{wma} = +5\text{ }^{\circ}\text{C}$ to $+20\text{ }^{\circ}\text{C}$.		NA
	Each compartment provides $T_{wma} \leq +12\text{ }^{\circ}\text{C}$.		NA
G.3.2	Storage temperature(s) varies over time by less than 0,5 K at each declared ambient temperature specified by the climate class for household refrigerating appliances.		NA
G.3.3	The appliance is constructed to reduce the transmission of vibration to the compartment, whether from the refrigerator compressor or from any external source.		NA
G.4	General test conditions		NA
G.4.1	Clause A.3 of Part 1 of this standard applies unless otherwise specified for wine storage appliances.		NA
G.4.2	For tests at ambient temperatures close to or below the average storage temperature for the specified compartment, instructions on possible warmest temperature setting when applicable is considered.		NA
G.4.3	Shelves, baskets and container are in position as defined in the instructions.		NA
G.5	Determination of volumes		NA
G.5.2	For the evaluation of the rated capacity of bottles 0,75 litre bottles or equivalent substitution with dimension as specified in Figure G.1 are used.		NA

EN 62552-1			
Clause	Requirement + Test	Result - Remark	Verdict
	To check the deformation of shelves etc. under normal usage condition, bottles are to contain water to provide a total weight of each bottle of 1 200 g $\pm$ 50 g.....:		—
	A sketch of the bottle loading plan showing the location of bottles for evaluation of the bottle capacity for wine storage compartments.		—
G.6	Measurement of storage temperature		
	Location of M-packages.....:		—
	Measurements at various ambient temperature		
	Each wine storage compartment is measured at $T_{wma} \leq 12\text{ }^{\circ}\text{C}$.	(see appended table)	NA
G.7	Determining temperature fluctuation		NA
G.7.1	Determining of the temperature fluctuation is performed at the temperature $T_{wma} = 12\text{ }^{\circ}\text{C}$ or the nearest colder temperature at an ambient temperature of $25\text{ }^{\circ}\text{C}$ and at the lowest and highest ambient temperature for the climate class claimed.		NA
	The average of all temperature amplitudes at each measurement point TMP_{wi} during the whole test period stays within 0,5 K.	(see appended table)	NA
G.7.2	Determining relative humidity inside of wine storage compartments		NA
	Determining of the relative humidity RH_{wim} in wine storage compartment is performed at temperature $t_{wma} = 12\text{ }^{\circ}\text{C}$ or the nearest colder temperature at ambient temperature of $25\text{ }^{\circ}\text{C}$ and an ambient humidity $50\% \leq RH \leq 75\%$		NA
	Test is performed in condition as specified in G.6		NA
	The integrated time average of the relative humidity RH_{wim} shall be expressed as percentage rounded to the nearest integer.	(see appended table)	NA
G.8	Final test report		NA
	Any final test report for wine storage appliances is include the test results of the following:		NA
	a) energy consumption	(see appended table)	—
	b) temperature fluctuation	(see appended table)	—
	c) bottle capacity of the compartments	(see appended table)	—
	d) a sketch of the bottle loading plan showing the location of bottles for evaluation of the bottle capacity		—
G.9	Marking and instructions		NA
G.9.1	Technical and commercial product information		NA

EN 62552-1			
Clause	Requirement + Test	Result - Remark	Verdict
	The following information is marked on technical and product information of wine storage appliances: "This appliance is intended to be used exclusively for the storage of wine".		NA
G.9.2	Instructions		NA
	The following information marked on Instructions provided with wine storage appliances: "This appliance is intended to be used exclusively for the storage of wine".		NA
	For compartments providing a temperature setting close to or higher than the declared lowest climate class temperature, instructions provided on the warmest possible temperature setting at low ambient temperatures.		NA

Annex ZA	TEST REPORT LAYOUT	P
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Annex ZB	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	P
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Annex ZZA	RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE ECODESIGN REQUIREMENTS OF COMMISSION REGULATION (EU) 2019/2019 AIMED TO BE COVERED	P
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Annex ZJB	RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE ENERGY LABELLING REQUIREMENTS OF COMMISSION DELEGATED REGULATION (EU) 2019/2016 AIMED TO BE COVERED	P
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EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL TEST CONDITIONS		P
	Unless otherwise noted, test room set-up and instrumentation shall be as Annex A of EN 62552-1		P
	Unless otherwise noted, installation and set-up of shelves, drawers, bins, flaps and controls etc. shall be as Annex B of EN 62552-1		P

6	STORAGE TEST		P
6.2	Preparation of refrigerating appliance		P
	The test room ambient shall be as Annex A.3.2.3 of EN 62552-1		P
	Installation of refrigerating appliance in the test room as Annex B of EN 62552-1		P
	Anti-condensation heaters, if any, are set as specified		NA
	Thermal storage devices, if any, shall be placed as specified		NA
	The unloaded refrigerating appliance is set up and operated until it has reached equilibrium at or close to the temperatures specified in Table 2.		P
	Any automatic icemaker is configured so that no new ice is made during the test, but otherwise remain operational.		NA
6.3	Air temperature sensor location and test and M-package loading		P
6.3.1	Unfrozen compartments (except chill compartment and wine storage compartment)		P
	For determining the storage temperatures of compartments, air temperature sensors are located in accordance with D.2.2 of EN 62552-1:2020.		P
6.3.2	Chill compartments		NA
6.3.2.1	General		NA
	For any chill compartment, the storage load is in accordance with 6.3.2.2.		NA
	The temperatures and conditions specified in Table 2 are applied.		NA
	All test packages and M-packages shall be positioned so that their largest surface is horizontal and shall be at least 25 mm away from all walls and ceilings and from the other packages of test load.		NA
	The test packages and M-packages shall be positioned as far as possible in the corners of the compartment and at two vertical levels.		NA
	Loading of packages shall be in the specified order		NA

EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Loading shall start using M-packages, up to the amount specified in Table 3		NA
	If a package cannot be placed according to the required order, its position shall be skipped and the number of packages shall be reduced. The number of M-packages shall not be reduced.		NA
	If the dimensions are too small to allow the horizontal positioning of the M-packages, it is permissible to position them vertically.		NA
	If the dimensions are too small to accommodate an M-package (for example in door shelves), a special support shall be used to position the M-package next to the shelf and as close as possible to the door liner		NA
6.3.2.2	Chill compartment storage load		NA
	Number of packages loaded in chill compartment.....:		NA
6.3.3	Frozen compartments/sections		NA
6.3.3.1	General		NA
	Temperatures are measured in M-packages, which are distributed throughout the load of test packages as specified in the test package placement (6.3.3.3). They are placed as specified in 6.3.3.4.		NA
6.3.3.2	Packages		NA
	All packages (test packages and M-packages) are as specified in Annex C of EN 62552-1:2020.		NA
6.3.3.3	Package placement		NA
6.3.3.4	Measurement package placement		NA
6.4	Test procedure		NA
	The ambient temperature (°C).....:	(see appended table)	P
	The setting(s) of any user-adjustable temperature control device(s) and any other user-adjustable control(s), damper(s) etc.....:	(see appended table)	P
	Storage temperatures (°C).....:	(see appended table)	P
6.5	Storage temperature		P
	The refrigerating appliance maintains simultaneously, the required storage temperatures in the different compartments (and the permitted temperature deviations during the defrost and recovery period) as given in Table 2.		P
8	FREEZING CAPACITY TEST		NA
8.2	Method overview		NA

EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Apart from space for the light load, ballast packages are loaded into the frozen compartment(s) as for the storage test (Clause 6). The refrigerating appliance is operated until temperatures are stable and in compliance with Table 2.		NA
	Then a load of packages at +25 °C is added. The time to freeze this load to -18 °C is measured. When this can be achieved in no more than 24 h and other maximum temperature-exursion conditions are met, a four-star compartment rating may be claimed.		NA
8.3	Set-up procedure		NA
8.3.1	The ambient temperature (°C).....: 25 °C		NA
8.3.2.1	Preparation of the refrigerating appliance		NA
	The refrigerating appliance shall be installed according to Annex B of EN 62552-1:2019.		NA
	If the configuration of the refrigerating appliance can be changed by the user the configuration with the greatest volume at the lowest temperatures shall be used for this test.		NA
	Anti-condensation heater(s) are set as specified		NA
	Thermal storage devices, if any, shall be placed as specified		NA
	The unloaded refrigerating appliance should be set up and operated until it has reached equilibrium at, or close to, the temperatures specified in Table 2.		NA
8.3.2.2	Chill compartment temperature is not measured, but loaded with test packages as for the storage temperature measurement.		NA
	For compartments normally operating above 0 °C, temperature measurement points shall be as per Annex D of EN 62552-1:2019 but with M-packages used instead of cylinders.		NA
8.3.3	Loading of refrigerating appliance		NA
8.3.3.1	In the -18 °C compartment(s), ballast load may be removed to accommodate the light load with the following constraints:		NA
	a) The minimum amount of stacks shall be removed		NA
	b) The height of a light load stack shall be 2 packages with the following exceptions:		NA
	- if the light load is to be composed of an odd number of packages, then one light load stack of 1 package is allowed;		NA
	- if the ballast load to be removed only exists out of stacks of 1 package, these shall be replaced with light load stacks of 1 package;		NA

EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- if the ballast load stack to be removed contains 6 or more packages, then it shall be replaced with a light load stack of half the number of packages in the ballast load stack (rounded down).		NA
	c) The minimum ballast load is 1 M-package		NA
	d) Light load packages shall be placed flat		NA
	e) Light load positioning shall take into account the instructions regarding the location to be used for freezing. If no instructions are given, the packages shall be placed such that they are likely to be frozen as rapidly as possible.		NA
	f) Light load packages shall be separated by at least 15 mm from ballast load packages. The use of spacers between adjacent stacks of packages is permitted, but other spacing methods are not.		NA
	If the instructions indicate that there is a separate section for freezing food, this section shall be used for the light load.		NA
8.3.3.1.2	The M-packages in the ballast load shall be located as for the storage test except for any locations that are disrupted by the need to leave space for the light load. In that case, the M-packages shall be placed in the nearest equivalent position.		NA
	If there are stacks of ballast load packages beside the light load an M-package shall also replace the top test package in at least one of those stacks on each side of the light load.		NA
	If there is ballast load above the light load an M-package shall replace a test package in the centre of the layer immediately above the light load.		NA
	If there is ballast load below the light load an M-package may replace a test package in the centre of the layer immediately below the light load.		NA
8.3.3.2	If a refrigerating appliance has a separate three-star compartment with its own external access door or lid, and the instructions recommend that, before freezing, frozen food already in storage be placed in that compartment while leaving space in the freezer compartment to receive the load for freezing (i.e. the three-star compartment is to be regarded as an extension of the freezer compartment), a freezing time claim based upon this method of use is permissible, provided that:		NA
	a) when tested according to this method of use, the claimed freezing time is confirmed and the temperature requirements for the other compartments (see 8.5 a) to g)), if applicable, are fulfilled during the freezing capacity test, and		NA

EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict
	b) the light load used in the freezer compartment is at least equivalent to 3,5 kg/100 l of the combined volumes of the freezer compartment and three-star compartment.		NA
8.4	Test procedure		NA
8.4.1	After stable operating conditions have been attained, internal temperature(s) shall be in accordance with Table 2 except that the starting temperature of any compartment(s) with no lower temperature limit(s) specified in that table shall be no more than 2 K below the target temperature.		NA
	In the case of a refrigerating appliance where the compartment temperatures cannot be adjusted independently, if such a setting is not possible, the non-complying compartments below the bottom limit shall be set to be as warm as possible.		NA
	The temperature indication succession from left to right in Table 2 also indicates the order of precedence in the case of several temperature possibilities.		P
8.4.2	If the refrigerating appliance is provided with means for a pre-freezing (fast-freezing or quick-freezing) operation, after stable operating conditions as 8.4.1 have been attained, the refrigerating appliance shall be set in operation in the pre-freezing condition according to the instructions. The procedure specified in 8.4.3 shall then be carried out.		NA
	If there are no special instructions for pre-freezing, the procedure according to 8.4.3 shall be carried out after the refrigerating appliance has reached stable operating conditions in accordance with the temperature requirements of 8.4.1.		NA
8.4.3	After the conditions specified in 8.4.2 have been attained, the light load shall be introduced.		NA
	For models with defrost control cycles, the light load should be added when stability has been regained and temperature criteria met after a defrost and recovery period. This test should not overlap a defrost and recovery period.		NA
	When stability has been achieved prior to the introduction of the light load, apart from as in 8.4.2, changes of setting of manually adjustable controls are no longer permitted.		NA
	The light load shall be 3,5 kg/100 l of the total volume of all compartments operating at -18 °C (three and four stars). The calculated load shall be rounded up to the nearest 0,5 kg, except that in no case shall it be less than 2,0 kg.		NA

EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The light load packages shall be placed flat and positioned taking into account the instructions and the requirements of the loading storage plan.		NA
	If no instructions are given, the packages shall be placed such that they are likely to be frozen as rapidly as possible.		NA
	Light load packages shall be separated by at least 15 mm from ballast load packages.		NA
	M-packages shall be uniformly distributed throughout the light load with at least one as close as practicable to its geometric centre.		NA
	The number of M-packages.....:		NA
8.4.4	Time necessary for reaching of the instantaneous temperatures of all the M-packages in the light load $\leq -18^{\circ}\text{C}$ (h).....:	(see appended table)	NA
Z8.5	Determination of the freezing time and freezing capacity and four-star rating		NA
	Freezing time ends when the arithmetic mean of the instantaneous temperatures of all the M-packages in the light load reaches $\leq -18^{\circ}\text{C}$ and the following met:		NA
	a) unless a defrost and recovery period overlaps the test, the maximum temperature of the ballast load M-packages $\leq -15^{\circ}\text{C}$, and	(see appended table)	NA
	the maximum temperature of the ballast load M-packages $\leq -18^{\circ}\text{C}$ at the end of the test	(see appended table)	NA
	b) If a defrost and recovery period overlaps the test, the maximum temperature of the ballast load M-packages $\leq -12^{\circ}\text{C}$ during the defrost and recovery period, and	(see appended table)	NA
	the maximum temperature of the ballast load M-packages $\leq -18^{\circ}\text{C}$ at the end of the test	(see appended table)	NA
	c) The maximum temperature of the warmest M-package in any separate three-star compartment not used for ballast $\leq -18^{\circ}\text{C}$ (plus the allowed excursions during any defrost and recovery period as specified in Table 2):	(see appended table)	NA
	d) The maximum temperature of the ballast load M-package in any two-star section or compartment $\leq -12^{\circ}\text{C}$ (plus the allowed excursions during a defrost and recovery period as specified in Table 2);	(see appended table)	NA
	e) The maximum temperature of the ballast load M-packages $\leq -6^{\circ}\text{C}$ (one-star compartment):	(see appended table)	NA
	f) The instantaneous compartment average temperature T_a of the fresh food compartment during the test does not exceed $+7^{\circ}\text{C}$, with T_1 , T_2 , T_3 each remaining between -1°C and $+10^{\circ}\text{C}$;	(see appended table)	NA
	g) The cellar compartment temperatures T_{c1} , T_{c2} , T_{c3} does not drop below 0°C :	(see appended table)	NA

EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict
	In order to meet the four stars rating the freezing capacity shall be at least 4,5 kg per 24 h per 100 l of the total volume of all compartments operating at -18 °C with a minimum of 2 kg per 24 h.		NA
Z8.6	Data to be recorded		NA

Z10	AIRBORNE ACOUSTICAL NOISE		P
	Where an airborne acoustical noise measurement is required, it shall be measured according to EN 60704-2-14.		P
	NOTE Z1 A possible procedure for the statistical determination of declared noise values is described in EN 60704-3.	Only record the most unfavorable test result.	NA

Annex B	WINE STORAGE APPLIANCES AND COMPARTMENTS; STORAGE TEST		NA
B.3	Measurement of compartment temperature		NA
	For determining the storage temperature of these compartments, M-packages are located in accordance with Clause G.6 of EN 62552-1:2020.		NA
B.4	Preparation of refrigerating appliance		NA
	Installed in the test room in accordance with Annex B of EN 62552-1:2020.		NA
B.5	Measurements		NA
B.5.1	General		NA
	For the appropriate ambient temperature, temperature control device(s) and other controls, if any, is adjusted, as necessary, to a position which is likely to give storage temperatures after stable operating conditions have been attained.		NA
B.5.2	Conditions for demonstration of compliance		NA
	Except during any freezing or cooling capacity test, the average of all temperature amplitudes at each measurement point in each wine storage compartment T_{wi} during the whole test period stays within $\pm 0,5$ K	(see appended table)	NA
	During any freezing or cooling capacity test the average of all temperature amplitudes at each measurement point in each wine storage compartment T_{wi} during the whole test period stays within $\pm 1,5$ K	(see appended table)	NA
	The integrated time averages of the temperatures T_{wim} stays between +5 °C and +20 °C. The arithmetic average T_{wma} of T_{w1m} , T_{w2m} , T_{w3m} are equal to or below +12 °C	(see appended table)	NA
B.6	Data to be recorded		NA

EN 62552-2			
Clause	Requirement + Test	Result - Remark	Verdict

Annex C	TEMPERATURE RISE TEST		NA
C.2	Procedure		NA
C.2.1	Ambient temperature		NA
	The ambient temperature (°C)	25°C	NA
C.2.2	Preparation of refrigerating appliance		NA
	The refrigerating appliance is installed according to Annex B of EN 62552-1:2020.		NA
	The refrigerating appliance is prepared, stabilized and loaded with test packages and M-packages (as for the storage test).		NA
C.2.3	Operation of the refrigerating appliance		NA
	Temperature-control devices setting.....	(see appended table)	NA
C.3	Test period and measurements		NA
C.5	Data to be recorded		NA

Annex ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		P
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Annex ZZA	RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE ECODSIGN REQUIREMENTS OF COMMISSION REGULATION (EU) 2019/2019 AIMED TO BE COVERED		P
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Annex ZZB	RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE ENERGY LABELLING REQUIREMENTS OF COMMISSION DELEGATED REGULATION (EU) 2019/2016 AIMED TO BE COVERED		P
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EN 62552-3			
Clause	Requirement + Test	Result - Remark	Verdict

5	TARGET TEMPERATURES FOR ENERGY DETERMINATION		P
5.2	Temperature control settings for energy consumption test		P
	When tested for energy consumption, the refrigerating appliance has at least one temperature control setting (or combination of temperature control settings) at which the average temperatures of each compartment is concurrently at or below the energy consumption target temperatures specified in Table 1.		P
	Where an appliance has no user-adjustable temperature controls, energy consumption is determined from the results of one measurement test run of the appliance as supplied.		NA
5.Z1	Controllability of temperatures in a compartment		NA
	A chill compartment temperature control test has been included in Annex ZA.		NA

6	DETERMINATION OF ENERGY CONSUMPTION		P
6.3	Number of test runs		P
	The energy consumption is determined at ambient temperatures of 16 °C and 32 °C either:		P
	a) directly from the results of a single test run;		P
	b) by interpolation between the results of two or more test runs.		NA
6.4	Steady state power consumption	See Annex B	P
6.5	Defrost and recovery energy and temperature change		NA
	Ambient temperatures of both 16 °C and 32 °C.		NA
	The additional energy associated with defrost and recovery is reported in Watt-hour (Wh).		NA
	The temperature change associated with defrost and recovery is reported in degree Kelvin-hour (Kh).		NA
6.6	Defrost interval		NA
	The defrost interval is expressed in hours, rounded to the nearest 0,1 h.		NA
6.7	Specified auxiliaries		NA
	The impact of specified auxiliaries is expressed in watt or watt-hour for a range of ambient conditions.		NA
6.8	Calculation of energy consumption		P
6.8.2	Daily energy consumption		P
	The ambient temperature (°C).....:	(see appended table)	P

EN 62552-3			
Clause	Requirement + Test	Result - Remark	Verdict
	The energy of refrigerating appliances without a defrost control cycle (Wh/d).....:	(see appended table)	P
	The steady state power for the selected temperature control setting (W).....:	(see appended table)	P
	The measured steady state temperature for each compartment is recorded with this value (°C).....:	(see appended table)	P
	The energy of refrigerating appliances with one defrost system (Wh).....:		NA
	The steady state power for the selected temperature control setting (W).....:		NA
	The representative incremental energy for defrost and recovery in accordance with Annex C (see C.5) (Wh).....:		NA
	The estimated defrost interval in accordance with Annex D (h).....:		NA
	The average temperature for each compartment (°C).....:	(see appended table)	NA
	The average steady state temperature in the compartment for the temperature control setting in accordance with Annex B (°C).....:	(see appended table)	NA
	The representative accumulated temperature difference over time for defrost and recovery for the relevant compartment in accordance with Annex C (see Clause C.5) (Kh).....:		NA
	The estimated defrost interval in accordance with Annex D (h).....:		NA
	The average temperature for each compartment (°C).....:	(see appended table)	NA
	The average steady state temperature in the compartment for the temperature control setting in accordance with Annex B (°C).....:	(see appended table)	NA
	The representative accumulated temperature difference over time for defrost and recovery for the relevant compartment in accordance with Annex C (see Clause C.5) (Kh).....:		NA
	The estimated defrost interval in accordance with Annex D (h).....:		NA
6.8.3	Interpolation	(see appended table)	P
6.8.4	Specified auxiliaries		NA
6.8.5	Total energy consumption		P
	Integrated energy value over a year.....:	(see appended table)	NA
	The total annual energy consumption of a refrigerating appliance E_{total} (except for low noise refrigerating appliances) (Wh/annum).....:	(see appended table)	NA

EN 62552-3			
Clause	Requirement + Test	Result - Remark	Verdict
	For low noise refrigerating appliances, the energy consumption shall be determined at an ambient temperature of 25 °C instead of at 16 °C and 32 °C		NA

8	UNCERTAINTY OF MEASUREMENT		P
	For all energy measurements, the uncertainty of measurement of the measured value is determined and stated with the measured result.		P

Annex A	SET UP FOR ENERGY TESTING		P
A.1	General		P
	The refrigerating appliance is installed in a test room and with instrumentation.	See Annex A of Test Report for EN 62552-1	P
	The refrigerating appliance is prepared and set up.	See Annex B of Test Report for EN 62552-1	P
	The refrigerating appliance has installed air temperature sensors for determination of air temperature in the compartment.	See Annex D of Test Report for EN 62552-1	P

Annex B	DETERMINATION OF STEADY STATE POWER AND TEMPERATURE		P
B.2	Setup for testing and data collection		P
	The refrigerating appliance under test is installed and operated in accordance with Annex A.	See Annex A	P
B.3	Case SS1: no defrost control cycle or where stability is established for a period between defrosts		P
B.3.2	Case SS1 acceptance criteria	(see appended table)	P
	Where temperature control cycles are present, the two comparable test periods that start one and two temperature control cycles earlier than the period selected also meet all of the above criteria.		P
	Where temperature control cycles are not present (or where fixed time slices are used), the two comparable test periods that start one hour and two hours earlier than the period selected also meet all of the above criteria.		NA
B.3.3	Case SS1 calculation of values	(see appended table)	P
B.4	Case SS2: steady state determined between defrosts		NA
B.4.2	Case SS2 acceptance criteria	(see appended table)	NA
	The initial defrost and recovery period which is included in period SS2 qualifies as a valid defrost and recovery period.	See Annex C	NA
	The incremental defrost and recovery energy in for the initial defrost and recovery period.	See Annex C	NA

EN 62552-3			
Clause	Requirement + Test	Result - Remark	Verdict
B.4.3	Case SS2 calculation of values	(see appended table)	—
B.5	Correction of steady state power		P

Annex C	DEFROST AND RECOVERY ENERGY AND TEMPERATURE CHANGE		NA
C.2	Setup for testing and data collection		NA
	The refrigerating appliance under test is installed and operated in accordance with Annex A.	See Annex A	NA
C.3	Case DF1: where steady state operation can normally be established before and after defrosts		NA
C.3.2	Case DF1 acceptance criteria	(see appended table)	NA
	An alternative approach (DF2) is outlined in Annex K, but this is only used if compliance with Clause C.3 cannot normally be achieved.		NA
C.3.3	Case DF1 calculation of values	(see appended table)	NA
C.4	Number of valid defrost and recovery periods		NA
	For Case DF1 and Case DF2 the minimum number of valid defrost and recovery periods required for each ambient test temperature in order to calculate a representative value for defrost and recovery energy and temperature change.		NA
C.5	Calculation of representative defrost energy and temperature		NA

Annex D	DEFROST INTERVAL		NA
D.2	Elapsed time defrost controllers		NA
	If the elapsed time controller is accessible, measure and calculate the elapsed time as specified.	(see appended table)	NA
	If the elapsed time controller is not accessible, measure and calculate the elapsed time as specified.	(see appended table)	NA
D.3	Compressor run time defrost controllers		NA
	If the elapsed time controller is accessible, measure and calculate the elapsed time as specified.	(see appended table)	NA
	If the elapsed time controller is not accessible, measure and calculate the elapsed time as specified.	(see appended table)	NA
D.4	Variable defrost controllers		NA
D.4.1	General		NA
	The intent is to estimate a representative defrost interval during normal use based on a range of parameters declared by the supplier.		NA
D.4.2	Variable defrost controllers - declared defrost intervals		NA
	The defrost interval for an ambient temperature of 32 °C.....:	(see appended table)	NA

EN 62552-3			
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum possible defrost interval at an ambient temperature of 32 °C as specified by the manufacturer (h).....:	(see appended table)	NA
	Minimum possible defrost interval at an ambient temperature of 32 °C as specified by the manufacturer (h).....:	(see appended table)	NA
	The limits:		NA
	Δt_{d-min} shall not exceed 12 h at an ambient temperature of 32 °C.		NA
	Δt_{d-max} not exceed 96 h at an ambient temperature of 32 °C.		NA
	Δt_{d-max} greater than Δt_{d-min} at an ambient temperature of 32 °C.		NA
	The value for Δt_{df16} at an ambient temperature of 16 °C is double the value of Δt_{df32} (h).....:	(see appended table)	NA
D.4.3	Variable defrost controllers - no declared defrost intervals (demand defrost)		NA
	The default values are:		NA
	at an ambient temperature of 32 °C (elapsed time) (h).....:	$\Delta t_{d-min} = 6$	NA
	at an ambient temperature of 32 °C (elapsed time) (h).....:	$\Delta t_{d-max} = 96$	NA
	This gives a default value for Δt_{df32} of 24 h and Δt_{df16} of 48 h in Formula (27) for variable defrost controllers that are of the demand defrost type.		NA
D.4.4	Variable defrost controllers - non compliant		NA
	the average of 3 observed defrost intervals at an ambient temperature of 32 °C with not more than one door opening per hour, but not exceeding 10,0 h.....:	(see appended table)	NA
	the average of 3 observed defrost intervals at an ambient temperature of 16 °C with not more than one door opening per hour, but not exceeding 20,0 h.....:	(see appended table)	NA

Annex E	INTERPOLATION OF RESULTS		NA
E.3	Case 1: linear interpolation – two test points		NA
E.3.2	Requirements		NA
	At least one compartment has one test point with a measured temperature that lies above the relevant target temperature while the other test point lies below the relevant target temperature.		NA
	The temperature difference between test runs in each compartment used for interpolation not exceed 4 K.		NA

EN 62552-3			
Clause	Requirement + Test	Result - Remark	Verdict
E.3.3	Calculations	(see appended table)	NA
E.4	Case 2: triangulation – three (or more) test points		NA
E.4.2	Requirements for two (or more) compartment triangulation		NA
E.4.2.1	General requirements		NA
	The temperature in each compartment used in interpolation lies within the range $T_{tar} \pm 4$ K for all temperature control setting combinations selected.		NA
E.4.2.2	Triangulation for a refrigerating appliance with two compartments	(see appended table)	NA
E.4.2.3	Triangulation for a refrigerating appliance with more than two compartments	(see appended table)	NA
E.4.3	Calculations for two compartment triangulation - manual interpolation		NA
E.4.4	Calculations for two compartment triangulation - matrices		NA
E.4.5	Checking temperature validity where there are more than two compartments for triangulation		NA
E.4.6	Calculations for three compartment triangulation - matrices		NA

Annex F	ENERGY CONSUMPTION OF SPECIFIED AUXILIARIES		NA
F.2	Ambient controlled anti-condensation heaters		NA
F.2.5	Calculation of power consumption		NA
	The data as set out in Table F.1 are normally provided by the product supplier or manufacturer.		NA
	The annual average additional power consumption associated with the ambient controlled anti-condensation heater (W).....:	(see appended table)	NA
	R_i is a regional factor to indicate the probability of the i th temperature and humidity bin in Table F.1.	(see appended table)	NA
	P_{Hi} is the average heater power associated with the i th temperature and humidity bin in Table F.1.	(see appended table)	NA
	The assumed loss factor.....:	1,3	NA
F.2.6	Where anti-condensation heater(s) cannot be disabled but their power consumption can be measured directly		NA
F.2.7	Where anti-condensation heater(s) cannot be disabled and their power consumption cannot be measured directly		NA
F.2.8	Where anti-condensation heater(s) has a user-adjustable setting		NA
	The highest energy value (W).....:	$W_{heatersmax} =$	NA
	The lowest energy value (W).....:	$W_{heatersmin} =$	NA
	The energy consumption at the highest energy value (Wh).....:	$E_{max} =$	NA

EN 62552-3			
Clause	Requirement + Test	Result - Remark	Verdict
	The energy consumption at the lowest energy value (Wh).....:	$E_{min} =$	NA
	The approach set out in F.2.5, F.2.6 or F.2.7 is used to determine the highest and lowest values for the anti-condensation heaters.		NA
	For refrigerating appliances with anti-condensation heaters that can be switched on and off by the end-user, the anti-condensation heaters shall be switched on and - if adjustable - set at maximum heating and included in the annual energy consumption (AE) as daily energy consumption (E_{daily}) (Point 1-(a) of Annex III of (EU) 2019/2019)		NA

Annex H	DETERMINATION OF VOLUME		P
H.2	Total volume	(see appended table)	P

Annex ZA	CHILL COMPARTMENT TEMPERATURE CONTROL TEST		NA
	Reference test at ambient of 16 or 32 °C.....:	(see appended table)	NA
	Verification test at ambient (°C).....:	(see appended table)	NA
	The reference chill compartment temperature (°C)....:	(see appended table)	NA
	Average temperature of chill compartment during verification test (°C).....:	(see appended table)	NA
	Variation between the reference temperature and the verification temperature (K).....:	(see appended table)	NA

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❖ STORAGE TEST

1. For appliances other than wine storage appliances:

Storage test							P
Ambient temperature (°C)	Setting of temperature control	Measuring point		Measured value (°C)		Difference of average temp. between period S and period E (K)	Temperature rise above reference temp. during the defrost and recovery period
32°C	COLD 	Pantry compartment					
		T _{P1m}		17.45		-	-
		T _{P2m}		17.26			
		T _{P3m}		16.10			
		T _{Pma}		16.94			
		Frozen compartment					
				Max.	Avg.	Max. - K	Max. temp. rise: - K Duration: - min.
		Period S	T ₁ ^{***}	-	-		
			T ₂ ^{***}	-	-		
			T ₃ ^{***}	-	-		
			T ₄ ^{***}	-	-		
			T _{reference}	-	-		
		Period E	T ₁ ^{***}	-	-		
			T ₂ ^{***}	-	-		
			T ₃ ^{***}	-	-		
			T ₄ ^{***}	-	-		
		Defrost and recovery period	T ₁ ^{***}	-	-		
T ₂ ^{***}	-		-				
T ₃ ^{***}	-		-				
T ₄ ^{***}	-		-				
16°C	COLD OFF	Pantry compartment					
		T _{P1m}		16.11		-	-
		T _{P2m}		16.10			
		T _{P3m}		16.10			
		T _{Pma}		16.10			
		Frozen compartment					
				Max.	Avg.	Max. - K	Max. temp. rise: - K Duration: - min.
		Period S	T ₁ ^{***}	-	-		
			T ₂ ^{***}	-	-		
			T ₃ ^{***}	-	-		

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			T_4^{***}	-	-		
			$T_{reference}$	-	-		
		Period E	T_1^{***}	-	-		
			T_2^{***}	-	-		
			T_3^{***}	-	-		
			T_4^{***}	-	-		
			T_1^{***}	-	-		
		Defrost and recovery period	T_2^{***}	-	-		
			T_3^{***}	-	-		
			T_4^{***}	-	-		
			T_4^{***}	-	-		

❖ VOLUME

	Pantry compartment	Frozen compartment	Other compartment
Volume of compartment (l)	22.0	-	-

❖ ENERGY CONSUMPTION TEST

1. For steady state test period NOT bounded by defrost and recovery periods: Pass

1.1) Annex B - Ambient temperature 16 °C

ΔCOP		-0.004		
1.1.1) Measured ambient temperature (°C)		16.00		
Temperature control setting - Test point 1		COLD OFF		
		Block A	Block B	Block C
Duration of block (h)		5.00	5.00	5.00
Middle time difference $t_c - t_A$ (h)		10.000		
Average temperature of block, T (°C)	Pantry compartment	16.12	16.08	16.11
	Frozen compartment	-	-	-
	Other compartment	-	-	-
Average power of block, P (W)		0.48	0.48	0.48
Average power of all the blocks, P_{av} (W)		0.48		
Spread of temp. (K)	Pantry compartment	0.040		
	Frozen compartment	-		
	Other compartment	-		
Slope of temp. (K/h)	Pantry compartment	0.0010		
	Frozen compartment	-		
	Other compartment	-		
Spread of power (%)		0.0000		
Slope of power (%/h)		0.0000		

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P _{ssM} (W)		0.48		
T _{ss1} (°C)	Pantry compartment	16.10		
	Frozen compartment	-		
	Other compartment	-		
P _{ss1} (W) - Corrected		0.48		
1.1.2) Measured ambient temperature (°C)		16.00		
Temperature control setting - Test point 2		-		
		Block A	Block B	Block C
Duration of block (h)		-	-	-
Middle time difference t _c - t _A (h)		-		
Average temperature of block, T (°C)	Pantry compartment	-	-	-
	Frozen compartment	-	-	-
	Other compartment	-	-	-
Average power of block, P (W)		-	-	-
Average power of all the blocks, P _{av} (W)		-		
Spread of temp. (K)	Pantry compartment	-		
	Frozen compartment	-		
	Other compartment	-		
Slope of temp. (K/h)	Pantry compartment	-		
	Frozen compartment	-		
	Other compartment	-		
Spread of power (%)		-		
Slope of power (%/h)		-		
P _{ssM} (W)		-		
T _{ss1} (°C)	Pantry compartment	-		
	Frozen compartment	-		
	Other compartment	-		
P _{ss1} (W) - Corrected		-		

1.2) Annex B - Ambient temperature 32 °C

Δ COP		-0.019		
1.2.1) Measured ambient temperature (°C)		32.00		
Temperature control setting - Test point 1		COLD 		
		Block A	Block B	Block C
Duration of block (h)		5.00	5.00	5.00
Middle time difference $t_c - t_A$ (h)		10.000		
Average temperature of block, T (°C)	Pantry compartment	16.92	16.95	16.94
	Frozen compartment	-	-	-
	Other compartment	-	-	-
Average power of block, P (W)		15.74	15.78	15.72
Average power of all the blocks, P_{av} (W)		15.75		
Spread of temp. (K)	Pantry compartment	0.030		
	Frozen compartment	-		
	Other compartment	-		
Slope of temp. (K/h)	Pantry compartment	0.0020		
	Frozen compartment	-		
	Other compartment	-		
Spread of power (%)		0.3810		
Slope of power (%/h)		0.0127		
P_{ssM} (W)		15.75		
T_{ss1} (°C)	Pantry compartment	16.94		
	Frozen compartment	-		
	Other compartment	-		
P_{ss1} (W) - Corrected		15.75		
1.2.2) Measured ambient temperature (°C)		32.00		
Temperature control setting - Test point 2		-		
		Block A	Block B	Block C
Duration of block (h)		-	-	-
Middle time difference $t_c - t_A$ (h)		10.000		
Average temperature of block, T (°C)	Pantry compartment	-	-	-
	Frozen compartment	-	-	-
	Other compartment	-	-	-
Average power of block, P (W)		-	-	-
Average power of all the blocks, P_{av} (W)		-		
Spread of temp. (K)	Pantry compartment	-		

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	Frozen compartment	-
	Other compartment	-
Slope of temp. (K/h)	Pantry compartment	-
	Frozen compartment	-
	Other compartment	-
Spread of power (%)		-
Slope of power (%/h)		-
P _{ssM} (W)		-
T _{ss1} (°C)	Pantry compartment	-
	Frozen compartment	-
	Other compartment	-
P _{ss1} (W) - Corrected		-

2. Annex E - Interpolation of results

Ambient temperature 16 °C			
	Test point 1	Test point 2	-
P _{ss} (W)	0.48	-	-
T _{ss} (°C)	16.10	-	-
ΔE _{df} (Wh)	-		
Δt _{df} (h)	-	-	-
E _{daily} (Wh)	11.52	-	-
E _{daily16} (Wh)	12		
Ambient temperature 32 °C			
	Test point 1	Test point 2	-
P _{ss} (W)	15.75	-	-
T _{ss} (°C)	16.94	-	-
ΔE _{df} (Wh)	-		
Δt _{df} (h)	-	-	-
E _{daily} (Wh)	378.00	-	-
E _{daily32} (Wh)	378		

Per Annex III of Regulation (EU) 2019/2019:

E _{daily16} (Wh)	12
E _{daily32} (Wh)	378
E _{aux} (kWh/a)	-
Load factor, L	1.0
AE (kWh/a) (= 365 x 0.5 x (E _{daily16} + E _{daily32}) / L + E _{aux})	71.18

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	Pantry compartment	-
C		1.00
D		1.00
A _c	1.00	-
B _c	1.00	-
V _c	22.0	-
N _c	75	-
r _c	0.35	-
M _c	0.12	-
SAE (kWh/a) (= $C \times D \times \sum A_c \times B_c \times [V_c/V] \times (N_c + V \times r_c \times M_c)$)		75.92

EEI (%) (= AE x 100 / SAE)	93.8
-------------------------------	------

❖ CHILL COMPARTMENT TEMPERATURE CONTROL TEST

	Reference test		Verification test		Variation T _{ccma} to T _{ccma_ref} (°C)
	Ambient temperature (°C)	T _{ccma_ref} (°C)	Ambient temperature (°C)	T _{ccma} (°C)	
Measured value (°C)	-	-	-	-	-

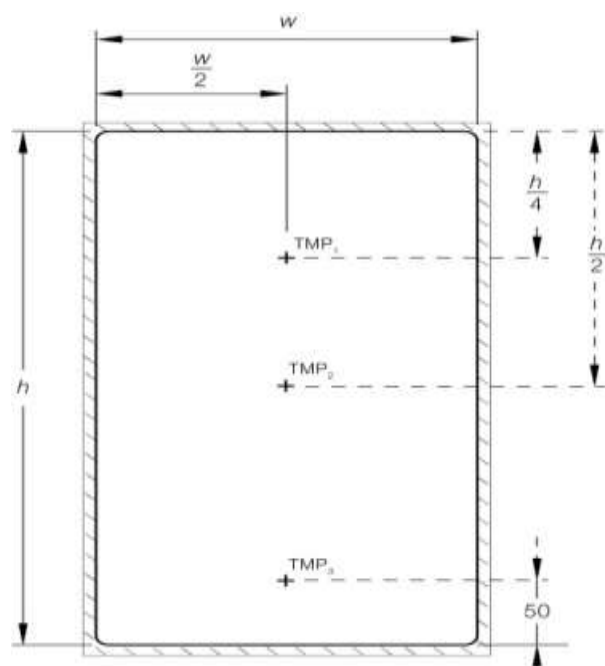
EN 62552-1 & EN 62552-2 & EN 62552-3

❖ TEMPERATURE TEST

Temperature rise test				NA
Ambient temperature (°C)	Setting of temperature control	Measured value (°C)		
		Start	End	Time for the temperature from -18°C to -9°C (min.)
25°C	-	-	-	-

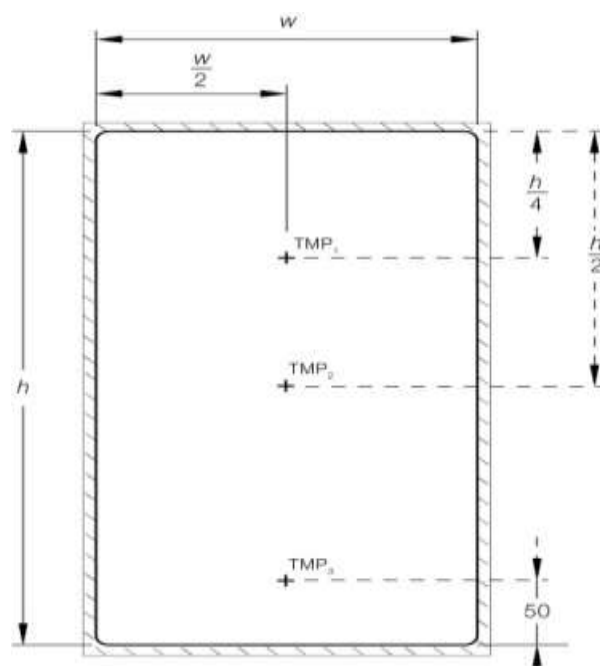
EN 62552-1 & EN 62552-2 & EN 62552-3

Freezing capacity test					NA
Ambient temperature (°C)	Setting of temperature control	Temperature No.	Measured value (°C)		
			Max.	Min.	Time when reach -18°C
25°C	-	T ₁	-	-	-
		T ₂	-	-	-
		T ₃	-	-	-
		T _a	-	-	-
		Ballast loads			
		T ₁ ^{***}	-	-	-
		T ₂ ^{***}	-	-	-
		T ₃ ^{***}	-	-	-
		T ₄ ^{***}	-	-	-
		T ₅ ^{***}	-	-	-
		T ₆ ^{***}	-	-	-
		Light loads			
		T ₇ ^{***}	-	-	-
		T ₈ ^{***}	-	-	
		1) These values are the temperatures at the end of test. 2) This value is the freezing time.			
Ballast load (kg)			-		
Light load (kg)			-		
Freezing time (h)			-		
Specific freezing capacity (kg/12h)			-		
Freezing capacity (kg/24h)			-		
Volume of four-star compartment/ section (L)			-		
Whether the rated freezing capacity meets the requirements of at least 4,5kg/100l in 24h			☐ Yes		☐ No

Annex 1: Indication of the locations of sensors for measuring temperatures during storage test.

Pantry compartment

Annex 2: Indication of the locations of sensors for measuring temperatures during energy consumption test.

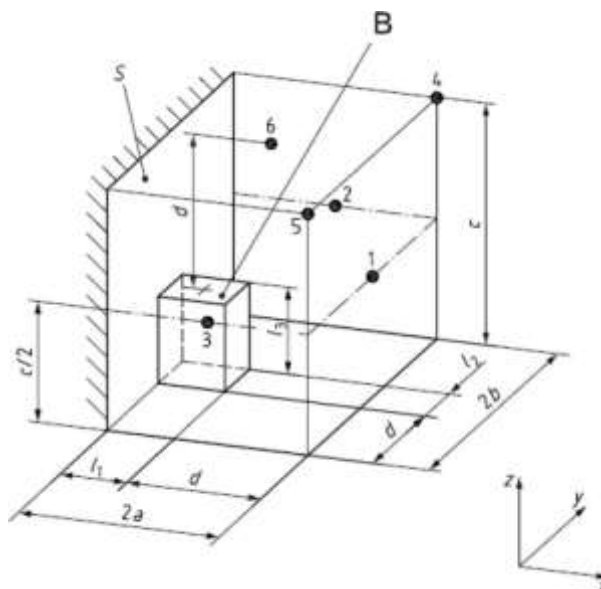


Pantry compartment

Annex 3: Sound power level test
(EN60704-1:2010+A11:2012, EN60704-2-14:2013+A11:2015+A1:2019)

Test voltage/frequency:		230V / 50Hz					
Measured surface:		See figure 1					
Address and environments:	Background noise	<19 dB(A)					
	Radius of free field	-					
	Ambient temperature	23°C					
	Relative humidity	61%RH					
Microphone Position		1	2	3	4	5	6
Lpi: (circle 1)		44.1	41.6	41.8	40.9	40.7	46.7
Lpi: (circle 2)		43.9	41.5	41.7	40.8	40.6	46.8
Lpi: (circle 3)		44.1	41.7	41.9	41.0	40.6	46.7
LW/ Sound power level		53.37dB(A)					
Airborne acoustical noise emission class (according to Commission Regulation (EU) 2019/2016)		D					
# The test was subcontracted to the below laboratory: Ningbo Customs District Technology Center No.99 Xingjian Road, Cixi City, Zhejiang Province, China							

Figure 1 – Measurement surface – parallelepiped – with key microphone positions.



*** End of test report ***

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Client:

Contact Information:

Buyer's name: n.a.

Manufacturer's name: n.a.

**Identification/
Model No(s):** Component of refrigerator

Sample Receiving date: 2021-09-02

Testing Period: 2021-09-03 to 2021-10-09

Delivery condition: Apparent good, Samples tested as received

Test specification:

Performed parameter(s) for the compliance with the following regulations concerning materials in contact with foodstuff:

- German §31 LFGB (Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch)
- Regulation (EC) No 1935/2004

Test conclusion:

PASS

Other Information:

Not available

Sample Photo

(For detailed sample picture please refer to last page)

For and on behalf of TÜV Rheinland / CCIC (Ningbo)Co., Ltd.



2021-10-12

Date

Lynn Xu / Assistant Manager

Name / Position



Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed.

This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

'Decision Rule' document announced in our website (<https://www.tuv.com/landingpage/en/qm-gcn/>) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.

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Indication: Food contact

Product: Commodity, contact with foodstuff
§ 2 (6) No. 1, German Food, Commodities and Animal Feed Code of Law (LFGB)

Description of test specimen

Item

1 Component of refrigerator

1. Material List:

Sample No.	Material	Color	Location
1	PP	White	Refer to photo

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2. Overall Results:

Test No.	Tested Item	Conclusion
1	Sensorial examination	PASS
2	Global Migration	PASS
3	Specific Migration of Metals	PASS
4	Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs)	PASS

3. Results

3.1 Sensorial examination

Test method: It is examined to the extent of food simulant being used, which comes into contact with the product, undergoes detectable changes in taste and smell.

For this purpose, the food simulant was stored in the product under the below mentioned time and temperature. Afterwards, the food simulant was examined by an appropriate number of tasters with regard to any divergence in smell and taste. Another test sample, which was used as a reference, was treated by the same way except that it had no contact with the product to be tested.

Before testing, the product had been cleaned according to the product's instruction manual or in the absence of such manual, by normal household cleaning.

The test is carried out on the basis of DIN 10955:2004 by paired comparison test:

Evaluation
scheme:

0 = No discernible deviation
1 = Barely discernible deviation
2 = Weak deviation
3 = Clear deviation
4 = Strong deviation
Limit: 3 (failed)

The following food simulants and conditions were applied:

Food simulant	Test duration / Temperature
Water	10 day(s) / 20 °C

Test No.:	1
Sample No.:	1
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0

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3.2 Global Migration

Test method: The migratory behaviour is examined with reference to Commission Regulation 10/2011 and its amendments.

Limit: With reference to Commission Regulation (EU) No 10/2011 and its amendments (including Commission Regulation (EU) 2020/1245)

The following food simulants and conditions were applied:

Food simulant	Test duration / Temperature
Acetic acid 3 %	10 day(s) / 20 °C
Ethanol 95 %	10 day(s) / 20 °C
Isooctane	1 day(s) / 20 °C

Test No.:	1 ^{(*2)(*3)}					
Sample No.:	1					
Migration ratio:	167 ml / 1.0 dm ²					
Parameter	Unit	RL	1 st Migration Result	2 nd Migration Result	3 rd Migration Result	Limit
Acetic acid 3 %	mg/dm ²	2	<RL	<RL	<RL	10
Ethanol 95 %	mg/dm ²	2	3	<RL	<RL	10
Isooctane	mg/dm ²	2	5	2	<RL	10

Abbreviations:

RL = Reporting Limit

mg/dm² = Milligram per square decimetre

ml/dm² = Mililitre per square decimetre

< = Less than

Remark:

*1 Acc. to DIN EN 1186-1 the following analytical tolerances have been observed:

- 3 mg/dm² in migration tests using rectified olive oil or substitutes,

- 1 mg/dm² in migration tests using aqueous simulants

A material or article that exceeds the overall migration limit by an amount not greater than the analytical tolerance mentioned above should therefore be deemed to be in compliance with the overall migration limit.

*2 Stability test is included in this test parameter.

*3 The migration results do not show increase between subsequent tests and therefore it meets the stability requirement.

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3.3 Specific Migration of Metals

Test method: The migratory behaviour was examined with reference to Commission Regulation (EU) No. 10/2011 and its amendments. Determination by ICP-MS.

Limit: With reference to Commission Regulation (EU) No 10/2011 and its amendments (including Commission Regulation (EU) 2020/1245)

The following food simulant and condition were applied:

Food simulant	Test duration / Temperature
Acetic acid 3 %	10 day(s) / 20 °C

Test No.:	1 ^(*) 2 ^(*) 3					
Material No.:	1					
Migration ratio:	167 ml / 1.0 dm ²					
Parameter	Unit	RL	1 st Migration Result	2 nd Migration Result	3 rd Migration Result	Limit
Aluminium	mg/kg	0.1	0.2	n.d.	n.d.	1
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5
Iron	mg/kg	5	n.d.	n.d.	n.d.	48
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5
Europium	mg/kg	0.01	n.d.	n.d.	n.d.	--
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.	--
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.	--
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.	--
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05

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Abbreviations:

- RL = Reporting limit
- n.d. = Not detected
- mg/kg = Milligram per kilogram
- ml/dm² = Mililitre per square decimetre
- < = Less than

Remark:

- *1 Single component with an amount below reporting limit was not considered by the calculation of the sum. In the case of all lanthanide substances europium, gadolinium, lanthanum and terbium were not detected, the result is stated n.d.
- *2 Stability test is included in this test parameter.
- *3 The migration results do not show increase between subsequent tests and therefore it meets the stability requirement.

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3.4 Specific Migration of Polycyclic Aromatic Hydrocarbons (PAHs)

Test method: The migratory behaviour was examined with reference to Commission Regulation (EU) No. 10/2011 and its amendments (including Commission Regulation (EU) 2020/1245). Determination by GC-MS.

Limit: Please refer to remark 1

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Isooctane	1 day(s) / 20 °C

Test No.:	1 ^{(*)3} (*)4						
Material No.:	1						
Migration ratio:	167 ml / 1.0 dm ²						
Parameter	CAS No.	Unit	RL	1 st Migration Result	2 nd Migration Result	3 rd Migration Result	Limit
Benzo[a]pyrene (BaP)	50-32-8	mg/kg	0.01	n.d.	n.d.	n.d.	-
Benzo[e]pyrene	192-97-2	mg/kg	0.01	n.d.	n.d.	n.d.	-
Benzo[a]anthracene	56-55-3	mg/kg	0.01	n.d.	n.d.	n.d.	-
Benzo[b]fluoranthene	205-99-2	mg/kg	0.01	n.d.	n.d.	n.d.	-
Benzo[j]fluoranthene	205-82-3	mg/kg	0.01	n.d.	n.d.	n.d.	-
Benzo[k]fluoranthene	207-08-9	mg/kg	0.01	n.d.	n.d.	n.d.	-
Chrysene	218-01-9	mg/kg	0.01	n.d.	n.d.	n.d.	-
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.01	n.d.	n.d.	n.d.	-
Benzo[g,h,i]perylene	191-24-2	mg/kg	0.01	n.d.	n.d.	n.d.	-
Indeno[1,2,3-c,d]pyrene	193-39-5	mg/kg	0.01	n.d.	n.d.	n.d.	-
Naphthalene	91-20-3	mg/kg	0.01	n.d.	n.d.	n.d.	-
Anthracene	120-12-7	mg/kg	0.01	n.d.	n.d.	n.d.	-
Fluoranthene	206-44-0	mg/kg	0.01	n.d.	n.d.	n.d.	-
Phenanthrene	85-01-8	mg/kg	0.01	n.d.	n.d.	n.d.	-
Pyrene	129-00-0	mg/kg	0.01	n.d.	n.d.	n.d.	-
Sum of 15 PAHs	-	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.

Abbreviations:

RL = Reporting Limit

mg/kg = Milligram per kilogram

n.d. = Not detected

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ml/dm² = Millilitre per square decimetre

< = Less than

Remark:

- *1 Polycyclic aromatic hydrocarbons (PAHs) are not listed substances for the production of plastic materials acc. to Regulation (EU) No. 10/2011, Annex I. A threshold of detection <0.01 mg/kg should be met.
- *2 Single component with an amount below reporting limit was not considered by the calculation of the sum. In the case all of PAHs were not detected, the result is stated n.d.
- *3 Stability test is included in this test parameter.
- *4 The migration results do not show increase between subsequent tests and therefore it meets the stability requirement.

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4. Sample picture(s):



Sample 1

- END -

General Terms and Conditions of Business of TÜV Rheinland in Greater China

1. Scope

These General Terms and Conditions of Business of TÜV Rheinland in Greater China ("GTCS") is made between the client and one or more member entities of TÜV Rheinland in Greater China as applicable as the case may be ("TÜV Rheinland"). The Greater China hereof refers to Mainland China, Hong Kong and Taiwan. The client hereof includes:

- a) a natural person capable to form legally binding contracts under the applicable laws who concludes the contract for the purpose of a daily use;
- b) the incorporated or unincorporated entity duly organized, validly existing and capable to form legally binding contracts under the applicable law.

The following terms and conditions apply to agreed services including consultancy services, information, deliveries and similar services as well as ancillary services and other secondary obligations provided within the scope of contract performance.

Any standard terms and conditions of the client of any nature shall not apply and shall hereby be expressly excluded. No standard contractual terms and conditions of the client shall form part of the contract nor if TÜV Rheinland does not explicitly object to them.

In the context of an ongoing business relationship with the client, this GTCS shall also apply to future contracts with the client without TÜV Rheinland having to refer to them separately in each individual case.

2. Quotations

Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by TÜV Rheinland without notice prior to its acceptance and confirmation by the other party.

3. Coming into effect and duration of contracts

The contract shall come into effect for the agreed terms upon the quotation letter of TÜV Rheinland or a separate contractual document being signed by both contracting parties, or upon the works requested by the client being carried out by TÜV Rheinland. If the client instructs TÜV Rheinland without receiving a quotation from TÜV Rheinland (quotation), TÜV Rheinland is, in its sole discretion, entitled to accept the order by giving written notice of such acceptance (including notice sent via electronic means) or by performing the requested services.

The contract term starts upon the coming into effect of the contract in accordance with article 3.1 and shall continue for the term agreed in the contract.

If the contract provides for an extension of the contract term, the contract term will be extended by the term provided for in the contract unless terminated in writing by either party with a six-week notice prior to the end of the contractual term.

4. Scope of services

The scope and type of the services to be provided by TÜV Rheinland shall be specified in the contractually agreed service scope of TÜV Rheinland by both parties. If no such separate service scope of TÜV Rheinland exists, then the written confirmation of order by TÜV Rheinland shall be decisive for the service to be provided.

The agreed services shall be performed in compliance with the regulations in force at the time the contract is entered into.

TÜV Rheinland is entitled to determine, in its sole discretion, the method and nature of the assessment unless otherwise agreed in writing or if mandatory provisions require a specific procedure to be followed.

On execution of the work there shall be no simultaneous assumption of any guarantee of the correctness (proper quality) and working order of either tested or examined parts or of the installation as a whole and its upstream and/or downstream processes, organisations, use and application in accordance with regulations, nor of the systems on which the installation is based. In particular, TÜV Rheinland shall assume no responsibility for the construction, selection of materials and assembly of installations examined, nor for their use and application in accordance with regulations, unless these questions are expressly covered by the contract.

In the case of inspection work, TÜV Rheinland shall not be responsible for the accuracy or checking of the safety programmes or safety regulations on which inspections are based, unless otherwise expressly agreed in writing.

If mandatory legal regulations and standards or official requirements for the agreed service scope change after conclusion of the contract, with a written notice to the client, TÜV Rheinland shall be entitled to additional remuneration for resulting additional expenses.

The services to be provided by TÜV Rheinland under the contract are agreed exclusively with the client. A contract of third parties with the services of TÜV Rheinland, as well as making available of and justifying confidence in the work results (test reports, test results, expert reports, etc.) is not part of the agreed services. This also applies if the client passes on work results - in full or in extracts - to third parties in accordance with clause 11.4.

5. Performance periods/dates

The contractually agreed periods/dates of performance are based on estimates of the work involved which are prepared in line with the details provided by the client. They shall only be binding if being confirmed as binding by TÜV Rheinland in writing.

If binding periods of performance have been agreed, these periods shall not commence until the client has submitted all required documents to TÜV Rheinland.

Articles 5.1 and 5.2 also apply, even without express approval by the client, to all extensions of agreed periods/dates of performance not caused by TÜV Rheinland.

TÜV Rheinland is not responsible for a delay in performance, in particular if the client has not fulfilled his duties to cooperate in accordance with clause 6.1 or has not done so in time and, in particular, has not provided TÜV Rheinland with all documents and information required for the performance of the service as specified in the contract.

If the performance of TÜV Rheinland is delayed due to unforeseeable circumstances such as force majeure, strikes, business disruptions, governmental regulations, transport obstacles, etc., TÜV Rheinland is entitled to postpone performance for a reasonable period of time which corresponds at least to the duration of the hindrance plus any time period which may be required to resume performance.

6. The client's obligation to cooperate

The client shall guarantee that all cooperation required on its part, its agents or third parties will be provided in good time and at no cost to TÜV Rheinland.

Design documents, supplies, auxiliary staff, etc. necessary for performance of the services shall be made available free of charge by the client. Moreover, collaborative action of the client must be undertaken in accordance with legal provisions, standards, safety regulations and accident prevention instructions. And the client represents and warrants that:

- a) it has required statutory qualifications;
- b) the product, service or management system to be certified complies with applicable laws and regulations; and
- c) it does not have any illegal and dishonest behaviours or is not included in the list of Enterprises with Serious Illegal and Dishonest Acts of People's Republic of China.

If the client breaches the aforesaid representations and warranties, TÜV Rheinland is entitled to i) immediately terminate the contract/order without prior notice; and ii) withdraw the issued testing report/certificates if any.

The client shall bear any additional cost incurred on account of work having to be redone or being delayed as a result of late, incorrect or incomplete information provided by or lack of proper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV Rheinland shall be entitled to charge extra fees for such additional expense.

7. Prices

If the scope of performance is not laid down in writing when the order is placed, invoicing shall be based on costs actually incurred. If no price is agreed in writing, invoicing shall be made in accordance with the price list of TÜV Rheinland valid at the time of performance.

Unless otherwise agreed, work shall be invoiced according to the progress of the work.

If the execution of an order extends over more than one month and the value of the contract or the agreed fixed price exceeds €2,500.00 or equivalent value in local currency, TÜV Rheinland may demand payments on account or in instalments.

8. Payment terms

All invoice amounts shall be due for payment without deduction on receipt of the invoice. No discounts and rebates shall be granted.

Payments shall be made to the bank account of TÜV Rheinland as indicated on the invoice, stating the invoice and client numbers.

In cases of default of payment, TÜV Rheinland shall be entitled to claim default interest at the applicable short-term loan interest rate publicly announced by a reputable commercial bank in the country where TÜV Rheinland is located. At the same time, TÜV Rheinland reserves the right to claim further damages.

Should the client default in payment of the invoice despite being granted a reasonable grace period, TÜV Rheinland shall be entitled to cancel the contract, withdraw the certificate, claim damages for non-performance and refuse to continue performance of the contract.

The provisions set forth in article 8.4 shall also apply in cases involving returned certificates, cessation of payment, commencement of insolvency proceedings against the client's assets or cases in which the commencement of insolvency proceedings has been dismissed due to lack of assets.

Objections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of receipt of the invoice.

TÜV Rheinland shall be entitled to demand appropriate advance payments.

TÜV Rheinland shall be entitled to raise its fees at the beginning of a month if overheads and/or purchase costs have increased. In this case, TÜV Rheinland shall notify the client in writing of the rise in fees. This notification shall be issued one month prior to the date on which the rise in fees shall come into effect (period of notice of changes in fees). If the rise in fees remains under 5% per contractual year, the client shall not have the right to terminate the contract. If the rise in fees exceeds 5% per contractual year, the client shall be entitled to terminate the contract by the end of the period of notice of changes in fees. If the contract is not terminated, the changed fees shall be deemed to have been agreed upon by the time of the expiry of the notice period.

Only legally established and undisputed claims may be offset against claims by TÜV Rheinland.

9. Acceptance of work

Any part of the work result ordered which is complete in itself may be presented by TÜV Rheinland for acceptance as an instalment. The client shall be obliged to accept it immediately.

If acceptance is required contractually agreed in an individual case, this shall be deemed to have taken place two (2) weeks after completion and handover of the work, unless the client refuses acceptance within this period stating at least one fundamental breach of contract by TÜV Rheinland.

The client is not entitled to refuse acceptance due to insignificant breach of contract by TÜV Rheinland.

If acceptance is excluded according to the nature of the work performance of TÜV Rheinland, the completion of the work shall take its place.

If the client was unable to make use of the time windows provided for within the scope of a certification procedure for auditing/performance by TÜV Rheinland and the certificate is therefore to be withdrawn (e.g. performance of surveillance audits), TÜV Rheinland is entitled to immediately charge a lump-sum compensation of 10% of the order amount as compensation for expenses. The client reserves the right to prove that the TÜV Rheinland has incurred no damage whatsoever or only a considerably lower damage than the above lump sum.

Insofar as the client has undertaken in the contract to accept services, TÜV Rheinland shall also be entitled to charge lump-sum damages in the amount of 10% of the order amount as compensation for expenses if the service is not called within one year after the order has been placed. The client reserves the right to prove that the TÜV Rheinland has incurred no damage whatsoever or only a considerably lower damage than the above mentioned lump sum.

10. Confidentiality

For the purpose of these terms and conditions, "confidential information" means all information, documents, images, drawings, know-how, data, samples and project documentation which one party (the "disclosing party") hands over, transfers or otherwise discloses to the other party (the "receiving party"), and the confidential information created during performance of work by TÜV Rheinland, including product testing data, defects, conformity to the technical standard and related reports. Confidential information also includes paper copies and electronic copies of such information. Confidential information is expressly not the data and know-how collected, compiled or otherwise obtained by TÜV Rheinland (non-personal) within the scope of the provision of services to the client. TÜV Rheinland is entitled to store, use, further develop and pass on the data obtained in connection with the provision of services for the purposes of developing new services, improving services and analysing the provision of services.

The disclosing party shall mark all confidential information disclosed in written form as confidential before passing it onto the receiving party. The same applies to confidential information transmitted by e-mail. If confidential information is disclosed orally, the receiving party shall be appropriately informed in advance and the disclosing party shall confirm in writing the confidentiality nature of the information within five working days of oral disclosure. Where the disclosing party fails to do so within the stipulated period, the receiving party shall not take any confidentiality obligations hereunder towards such information.

All confidential information which the disclosing party transmits or otherwise discloses to the receiving party and which is created during performance of work by TÜV Rheinland:

- a) may only be used by the receiving party for the purposes of performing the contract, unless expressly otherwise agreed in writing by the disclosing party;

b) may not be copied, distributed, published or otherwise disclosed by the receiving party, unless this is necessary for fulfilling the purpose of the contract or TÜV Rheinland is required to pass on confidential information, inspection reports or documentation to the government authorities, judicial court, accreditation bodies or third parties that are involved in the performance of the contract;

c) must be treated by the receiving party with the same level of confidentiality as the receiving party uses to protect its own confidential information, but never with a lesser level of confidentiality than that which is reasonably required.

The receiving party may disclose any confidential information received from the disclosing party only to those of its employees who need this information to perform the services required for the contract. The receiving party undertakes to oblige these employees to observe the same level of secrecy as set forth in this confidentiality clause.

Information for which the receiving party can furnish proof that:

- a) it was generally known at the time of disclosure or has become general knowledge without violation of this confidentiality clause by the receiving party; or
- b) it was disclosed to the receiving party by a third party entitled to disclose this information; or

c) the receiving party already possessed this information prior to disclosure by the disclosing party; or

d) the receiving party developed it itself, irrespective of disclosure by the disclosing party, shall not be deemed to constitute "confidential information" as defined in this confidentiality clause.

All confidential information shall remain the property of the disclosing party. The receiving party hereby agrees to immediately return all confidential information, including all copies to the disclosing party, and/or (ii) on request by the disclosing party, to destroy all confidential information, including all copies, and confirm the destruction of this confidential information to the disclosing party in writing, at any time if so requested by the disclosing party but at the latest and without special request after termination or expiry of the contract. This does not extend to include reports and certificates prepared for the client solely for the purpose of fulfilling the obligations under the contract, which shall remain with the client. However, TÜV Rheinland is entitled to make file copies of such reports, certificates and confidential information that forms the basis for preparing these reports and certificates in order to evidence the correctness of results and for general documentation purposes required by laws, regulations and the requirements of working procedures of TÜV Rheinland.

From the start of the contract and for a period of three years after termination or expiry of the contract, the receiving party shall maintain strict secrecy of all confidential information and shall not disclose this information to any third parties or use it for itself.

11. Copyrights and rights of use, publications

TÜV Rheinland shall retain all exclusive copyrights in the reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared by TÜV Rheinland, unless otherwise agreed by the parties in a separate agreement. As the owner of the copyrights, TÜV Rheinland is free to grant others the right to use the work results for individual or all types of use ("right of use").

The client receives a simple, unlimited, non-transferable, non-sublicensable right of use to the contents of the work results produced within the scope of the contract, unless otherwise agreed by the parties in a separate agreement. The client may only use such reports, expert reports/opinions, test reports/results, results, calculations, presentations etc. prepared within the scope of the contract for the contractually agreed purpose.

The transfer of right of use of the generated work results regulated in clause 11.2. of the GTCS is subject to full payment of the remuneration agreed in favour of TÜV Rheinland.

The client may use work results only complete and unshortened. The client may only pass on the work results in full unless TÜV Rheinland has given its prior written consent to the partial passing on of work results.

Any publication or duplication of the work results for advertising purposes or any further use of the work results beyond the scope regulated in clause 11.5. needs the prior written approval of TÜV Rheinland in each individual case.

TÜV Rheinland may revoke a once given approval according to clause 11.5. at any time without stating reasons. In this case, the client is obliged to stop the transfer of the work results immediately at his own expense and, as far as possible, to withdraw publications.

The consent of TÜV Rheinland to publication or duplication of the work results does not entitle the client to use the corporate logo, corporate designer test/certification mark of TÜV Rheinland.

12. Liability of TÜV Rheinland

Irrespective of the legal basis, to the fullest extent permitted by applicable law, in the event of a breach of contractual obligations or tort, the liability of TÜV Rheinland for all damages, losses and reimbursement of expenses caused by TÜV Rheinland, its legal representatives and/or employees shall be limited to: (i) in the case of a contract with a fixed overall fee, three times the overall fee for the entire contract; (ii) in the case of a contract for annually recurring services, the agreed annual fee; (iii) in the case of a contract expressly charged a time and material basis, a maximum of 20,000 Euro or equivalent amount in local currency; and (iv) in the case of a framework agreement that provides for the possibility of placing individual orders, three

times of the fee for the individual order under which the damages or losses have occurred. Notwithstanding the above, in the event that the total and accumulated liability calculated according to the foregoing provisions exceeds 2.5 Million Euro or equivalent amount in local currency, the total and accumulated liability of TÜV Rheinland shall be only limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in local currency.

The limitation of liability according to article 12.1 above shall not apply to damages and/or losses caused by malice, intent or gross negligence on the part of TÜV Rheinland or its vicarious agents. Such limitation shall not apply to damages for a person's death, physical injury or illness.

In cases involving a fundamental breach of contract, TÜV Rheinland will be liable even where minor negligence is involved. For this purpose, a "fundamental breach" is breach of a material contractual obligation, the performance of which permits the due performance of the contract. Any claim for damages for a fundamental breach of contract shall be limited to the amount of damages reasonably foreseen as a possible consequence of such breach of contract at the time of the breach (reasonably foreseeable damages), unless any of the circumstances described in article 12.2 applies.

TÜV Rheinland shall not be liable for the acts of the personnel made available by the client to support TÜV Rheinland in the performance of its services under the contract, unless such personnel made available is regarded as vicarious agent of TÜV Rheinland. If TÜV Rheinland is not liable for the acts of the personnel made available by the client under the foregoing provision, the client shall indemnify TÜV Rheinland against any claims made by third parties arising from or in connection with such personnel's acts.

Unless otherwise contractually agreed in writing, TÜV Rheinland shall only be liable under the contract to the client.

The limitation periods for claims for damages shall be based on statutory provisions.

None of the provisions of this article 12 changes the burden of proof to the disadvantage of the client.

13. Export control

When passing on the services provided by TÜV Rheinland or part thereof to third parties in Greater China or other regions, the client must comply with the respectively applicable regulations of national and international export control law.

The performance of a contract with the client is subject to the proviso that there are no obstacles to performance due to national or international foreign trade legislation or embargos and/or sanctions. In the event of a violation, TÜV Rheinland shall be entitled to terminate the contract with immediate effect and the client shall compensate for the losses incurred thereof by TÜV Rheinland.

14. Data protection notice

TÜV Rheinland processes personal data of the client for the purpose of fulfilling this contract. In addition, TÜV Rheinland also processes the data for other legal purposes in accordance with the relevant legal basis. The personal data of the client will only be disclosed to other natural or legal persons if the legal requirements are met. This also applies to transfers to third countries. The personal data will be deleted immediately as soon as a corresponding reason for deletion arises. Data subjects may exercise the following rights: right of information, right of rectification, right of deletion, right of processing limitation, right of objection, right of data transferability. In addition, persons concerned by the data processing have the right to revoke their consent at any time with effect for the future, as well as the right to file a complaint with the competent data protection supervisory authority. For further details on the processing of personal data by TÜV Rheinland as the person responsible or contract processor, please refer to the respective data protection information. You can contact the Group Data Protection Officer of TÜV Rheinland by e-mail at datenschutz@de.tuv.com or by post at the following address: TÜV Rheinland AG, c/o Group Data Protection Officer, Am Grauen Stein, 51105 Cologne, Germany.

15. Test material: transport risk and storage

The risk and costs for freight and transport of documents or test material to and from TÜV Rheinland as well as the costs of necessary disposal measures shall be borne by the client.

Any destroyed and otherwise worthless test material will be disposed of by TÜV Rheinland for the client at the expense of the client, unless otherwise agreed.

Undamaged test material shall be stored by TÜV Rheinland for four (4) weeks after completion of the test. If a longer storage period is desired, TÜV Rheinland charges an appropriate storage fee.

After the expiry of the 4 weeks or any longer period agreed upon, the test material will be disposed of by TÜV Rheinland for the client for a fee in accordance with clause 15.2.

16. Termination of the contract

Notwithstanding clause 3.3 of the GTCS, TÜV Rheinland and the client are entitled to terminate the contract at its own discretion in the case of non-performance of services combined with the combined parts of the contract individually and independently of the continuation of the remaining services with six (6) months' notice the end of the contractually agreed term.

For good cause, TÜV Rheinland may consider giving a written notice to the client to terminate the contract which includes but is not limited to the following:

- a) the client does not immediately notify TÜV Rheinland of changes in the conditions within the company which are relevant for certification or signs of such changes;
- b) the client misses the certificate or certification mark or uses it in violation of the contract;
- c) in the event of several consecutive delays in payment (at least three times);
- d) a substantial deterioration of the financial circumstances of the client occurs and as a result the payment claims of TÜV Rheinland under the contract are considerably endangered and TÜV Rheinland cannot reasonably be expected to continue the contractual relationship.

In the event of termination with written notice by TÜV Rheinland for good cause, TÜV Rheinland shall be entitled to a lump-sum claim for damages against the client if the conditions of a claim for damages exist. In this case, the client shall owe 15% of the remuneration to be paid until the end of the fixed contract term as lump-sum compensation. The client reserves the right to prove that there is no damage or a considerably lower damage. TÜV Rheinland reserves the right to prove a considerably higher damage in individual cases.

TÜV Rheinland is also entitled to terminate the contract with written notice if the client has not been able to make use of the time windows for auditing and/or inspection provided by TÜV Rheinland within the scope of a certification procedure and the certificate therefore has to be withdrawn (for example during the performance of monitoring audits). Clause 16.3 applies accordingly.

17. Partial invalidity, written form, place of jurisdiction and dispute resolution

All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 17.1.

Should one or several of the provisions under the contract and/or these terms and conditions be or become ineffective, the contracting parties shall replace the invalid provision with a legally valid provision that comes closest to the content of the invalid provision in legal and commercial terms.

Unless otherwise stipulated in the contract, the governing law of the contract and these terms and conditions shall be chosen following the rules as below:

a) If TÜV Rheinland in question is legally registered and existing in the People's Republic of China, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of the People's Republic of China.

b) If TÜV Rheinland in question is legally registered and existing in Taiwan, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Taiwan.

c) If TÜV Rheinland in question is legally registered and existing in Hong Kong, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Hong Kong.

Any dispute in connection with the contract and these terms and conditions or the execution thereof shall be settled friendly through negotiations. Unless otherwise stipulated in the contract, if no settlement or no agreement in respect of the extension of the negotiation period can be reached within two months of the arising of the dispute, the dispute shall be submitted:

a) in the case of TÜV Rheinland in question being legally registered and existing in the People's Republic of China, to China International Economic and Trade Arbitration Commission (CIETAC) to be settled by arbitration under the Arbitration Rules of CIETAC in force when the arbitration is submitted. The arbitration shall take place in Beijing, Shanghai, Shenzhen or Chongqing as appropriately chosen by the claiming party.

b) in the case of TÜV Rheinland in question being legally registered and existing in Taiwan, to Chinese Arbitration Association Taipei Branch to be arbitrated in accordance with its then current Rules of Arbitration. The arbitration shall take place in Taipei.

c) in the case of TÜV Rheinland being legally registered and existing in Hong Kong, to Hong Kong International Arbitration Centre (HKIAC) to be settled by arbitration under the HKIAC Administered Arbitration Rules in force when the Notice of Arbitration is submitted in accordance with these rules. The arbitration shall take place in Hong Kong.

The decision of the relevant arbitration tribunal shall be final and binding on both parties. The arbitration fee shall be borne by the losing party.