BS EN ISO 23953-1:2015

BSI Standards Publication

Refrigerated display cabinets

Part 1: Vocabulary

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National foreword

This British Standard is the UK implementation of EN ISO 23953-1:2015. It supersedes BS EN ISO 23953-1:2005+A1:2012 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RHE/19, Commercial refrigerated food cabinets (cold room and display cases).

A list of organizations represented on this committee can be obtained on request to its secretary.

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Refrigerated display cabinets - Part 1: Vocabulary (ISO 23953-1:2015)

Meubles frigorifiques de vente - Partie 1: Vocabulaire (ISO 23953-1:2015)

Verkaufskühlmöbel - Teil 1: Begriffe (ISO 23953-1:2015)

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Foreword

This document (EN ISO 23953-1:2015) has been prepared by Technical Committee ISO/TC 86 "Refrigeration and air-conditioning" in collaboration with Technical Committee CEN/TC 44 “Commercial and Professional Refrigerating Appliances and Systems, Performance and Energy Consumption” the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2016, and conflicting national standards shall be withdrawn at the latest by May 2016.

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Endorsement notice

The text of ISO 23953-1:2015 has been approved by CEN as EN ISO 23953-1:2015 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

ISO 23953-1 was prepared by European Committee for Standardization (CEN) in collaboration with ISO/TC 86, *Refrigeration and air-conditioning*, Subcommittee SC 7, *Testing and rating of commercial refrigerated display cabinets*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 23953-1:2005 and ISO 23953-1:2005/Amd 1:2012), which has been technically revised. ISO 23953-1 reports new terms and definitions also taking into account Directive 2009/125/EC "establishing a framework for the setting of ecodesign requirements for energy-related products", oriented to an energy rating management. Moreover, new terms and definitions were added on test environment. Some existing terms were updated consistently to the modifications of ISO 23953-2.

ISO 23953 consists of the following parts, under the general title *Refrigerated display cabinets*:

— *Part 1: Vocabulary*

— *Part 2: Classification, requirements and test conditions*

INTERNATIONAL STANDARD ISO 23953-1:2015(E)

Refrigerated display cabinets —

Part 1: Vocabulary

1 Scope

This part of ISO 23953 establishes a vocabulary of terms and definitions relative to refrigerated display cabinets used for the sale and display of foodstuffs. It is not applicable to refrigerated vending machines or cabinets intended for use in catering or similar non-retail applications.

NOTE In addition to terms in English and French, two of the three official ISO languages, this part of ISO 23953 gives the equivalent terms in German, Italian, and Spanish; these are published under the responsibility of the member bodies for Germany (DIN), Italy (UNI), and Spain (AENOR). However, only the terms and definitions given in the official languages can be considered as ISO terms and definitions.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 23953-2:2015, *Refrigerated display cabinets — Part 2: Classification, requirements and test conditions*

3 Terms and definitions

3.1 Cabinet families and types

See Annex A.

3.1.1
refrigerated display cabinet
cabinet cooled by a refrigerating system which enables chilled and frozen foodstuffs placed therein for display to be maintained within prescribed temperature limits

3.1.2
vertical refrigerated display cabinet
refrigerated display cabinet, either semi-vertical multi-deck, roll-in, or glass door

3.1.3
semi-vertical refrigerated display cabinet
vertical refrigerated display cabinet whose overall height does not exceed 1,5 m and having either a vertical or inclined display opening

3.1.4
horizontal refrigerated display cabinet (counter)
refrigerated display cabinet (counter) with horizontal display opening on its top and accessible from above

3.1.5
closed refrigerated display cabinet
refrigerated display cabinet where access to the foodstuffs is gained by opening a door or lid

3.1.6
assisted service refrigerated display cabinet
serve-over counter
horizontal refrigerated display cabinet which requires that a person serve the consumer with fresh-cut or packed foodstuffs

3.1.7
self-service refrigerated display cabinet
self-service counter
horizontal refrigerated display cabinet from which the consumer selects the prepacked foodstuffs

3.1.8
serve-over counter with integrated storage
refrigerated display cabinet for assisted service, including refrigerated storage which is normally placed in its base

3.1.9
combined refrigerated display cabinet with glass door top
refrigerated display cabinet consisting of a refrigerated bottom, open or with glass lid, and a glass-door, refrigerated top

3.1.10
combined refrigerated display cabinet with open top
refrigerated display cabinet consisting of a refrigerated bottom, open or with glass lid, and an open refrigerated top

3.1.11
multi temperature combined refrigerated display cabinet
refrigerated display cabinet with different temperatures for chilled or frozen foodstuffs in the top and the bottom

3.1.12
movable front cabinet
roll-in cabinet
cabinet which enables goods to be displayed directly on their pallets or rolls which can be placed inside by lifting, swinging, or removing the lower front part, where fitted

3.1.13
back-wall service cabinet
refrigerated cabinet in assisted service, placed behind the serving personnel, with or without an added back storage

Note 1 to entry: See Figure 1.

3.2 Refrigerated display cabinet shapes

3.2.1
island run
shop-around line of multiplexed cabinets (horizontal, vertical, or combined), possibly provided with an end cabinet so that the consumer has access to all sides

Note 1 to entry: See Figure 1.

3.2.2
internal angle
cabinet that ensures the geometrical continuity between two cabinets whose extremities form an angle of between 0° and 90°

Note 1 to entry: See Figure 1.

3.2.3
external angle
cabinet that ensures the geometrical continuity between two cabinets whose extremities form an angle of between 0° and 90°

Note 1 to entry: See Figure 1.

3.2.4
end wall
panel closing a cabinet or a line-up or the side of a line-up

Note 1 to entry: See Figure 1.

3.2.5
line-up
run
line consisting of multiplexed modular refrigerated cabinets even if not in a straight segment

Note 1 to entry: See Figure 1.

3.2.6
technical line-up
zone
line made up of multiplexed modular refrigerated cabinets even if not in a straight segment but with shared safety and temperature control devices

Note 1 to entry: See Figure 1.

3.2.7
wall cabinet
cabinet (horizontal, vertical, or combined) intended to be located with its back to a wall or back to back with another cabinet

Note 1 to entry: See Figure 1.

3.2.8
island cabinet
shop-around or other cabinet intended to be multiplexed as a part of island run

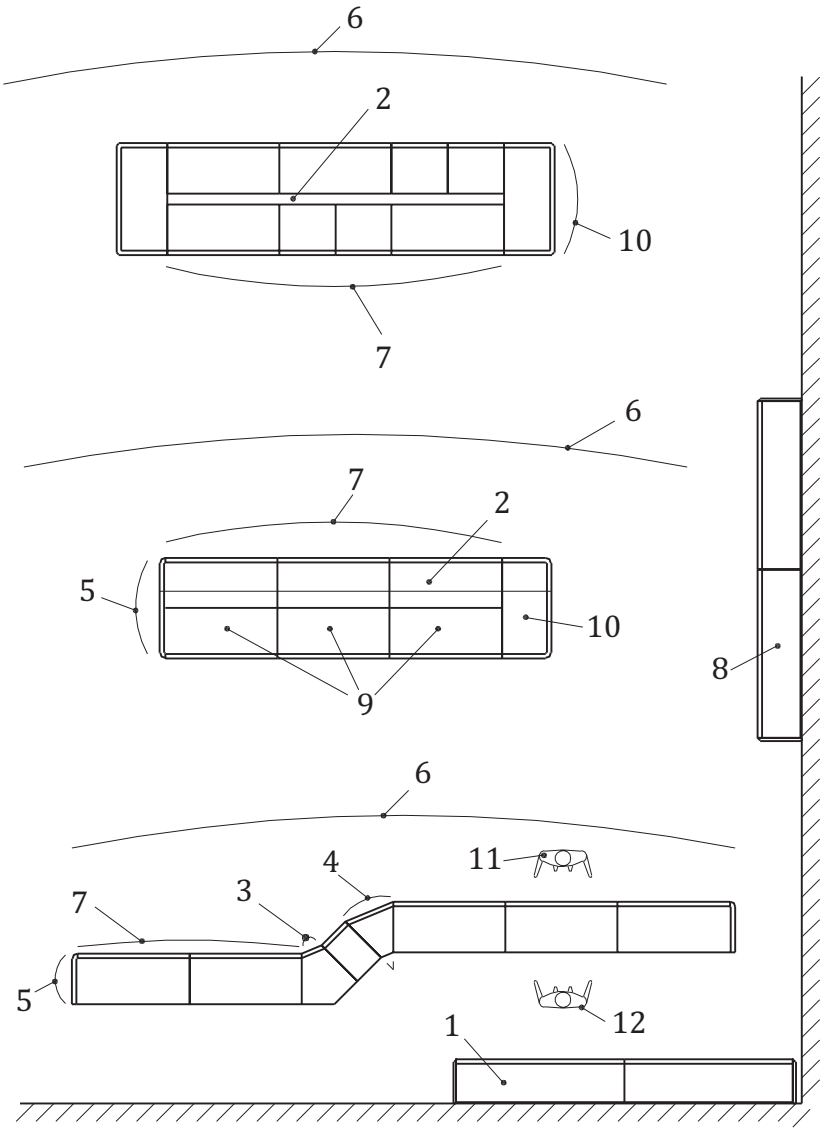
Note 1 to entry: See Figure 1.

3.2.9
island cabinet with air discharge in the middle
island with air discharge positioned in the middle of the cabinet so that the product storage room consists of two separate volumes

Note 1 to entry: Two open wall cabinets mounted back to back are not considered to be an “island cabinet with air discharge in the middle”.

3.2.10
end cabinet
cabinet intended to be located at the end of an island run

Note 1 to entry: See Figure 1.



Key

1 back wall service cabinet
2 island run
3 internal angle
4 external angle
5 end wall
6 line-up/run
7 technical line-up/zone
8 wall cabinet
9 island cabinet
10 end cabinet
11 consumer
12 serving personnel

Figure 1 — Refrigerated display cabinet shapes

3.3 Parts of refrigerated display cabinets

3.3.1
air discharge
opening at which the air curtain comes out

Note 1 to entry: See Figure 2.

3.3.2
air return
opening at which the air curtain flows back inside the cabinet air ducts

Note 1 to entry: See Figure 2.

3.3.3
shelf
surface, excluding the base deck, on which the goods are displayed

Note 1 to entry: See Figure 2.

3.3.4
price marking rail
ticket holder
profile fitted along the cabinet shelves which enables different types of labels for consumer information to be displayed

Note 1 to entry: See Figure 2.

3.3.5
kickplate
vertical plate or plinth that covers the gap between the floor and base of the cabinet

Note 1 to entry: See Figure 2.

3.3.6
night cover
lid, blind, or other cover used to reduce the heat ingress (e.g. by infrared radiation or convection) into an open refrigerated display cabinet

Note 1 to entry: See Figure 2.

3.3.7
night blind
type of night cover, curtain to be pulled on the cabinet display opening in order to close it and which can be moved automatically

Note 1 to entry: See Figure 2.

3.3.8
canopy
upper front part of a vertical cabinet

Note 1 to entry: See Figure 2.

3.3.9
front panel(s)
group of aesthetic pieces of the cabinet front, visible to the consumer

Note 1 to entry: See Figure 2.

3.3.10
front
side of the cabinet facing the consumer or in the case of an island cabinet, the side on which the manufacturer affixes his identification plate

Note 1 to entry: See Figure 2.

3.3.11
front riser
device for retaining the goods within the display surface

Note 1 to entry: See Figure 2.

3.3.12
handrail
upper front profile covering the edge that is normally touched by the consumer

Note 1 to entry: See Figure 2.

3.3.13
condensing unit
combination of one or more compressors, condensers, and liquid receivers (when required) and the regularly furnished accessories

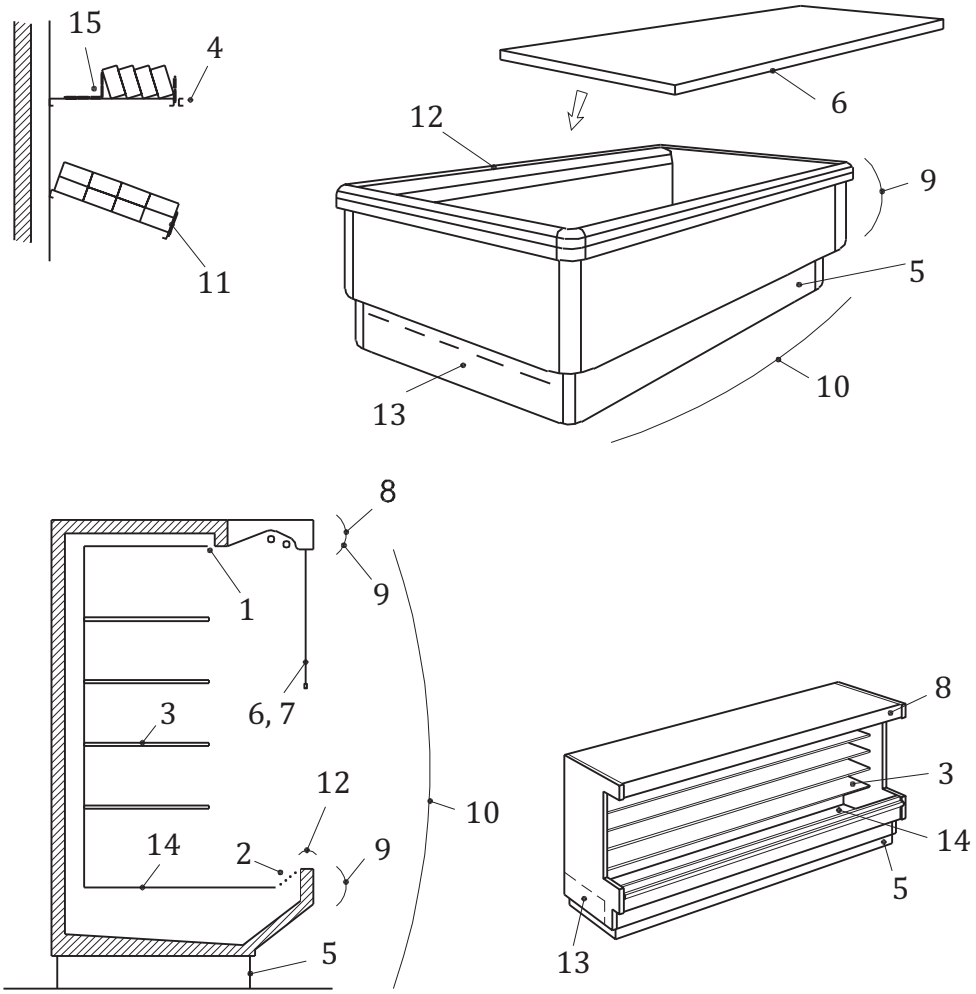
Note 1 to entry: See Figure 2.

3.3.14
base deck
lowest display surface of a cabinet

Note 1 to entry: See Figure 2.

3.3.15
shelf sham
device intended to limit the loading of a display surface

Note 1 to entry: See Figure 2.



Key

1 air discharge
2 air return
3 shelf
4 price marking rail/ticket holder
5 kickplate
6 night cover
7 night blind
8 canopy
9 front panel(s)
10 front
11 front riser
12 handrail
13 possible location of condensing unit
14 base deck
15 shelf sham

Figure 2 — Parts of refrigerated display cabinets

3.4 Dimensional characteristics

3.4.1
refrigerated shelf area
refrigerated display area where the vertical clearance above any shelf or base deck is greater than or equal to 100 mm, measured perpendicularly above the plane of the shelf or base deck and within the bounds of any load limit

3.4.2
overall external dimensions at installation
dimensions of the right parallelepiped bounded by the length, depth, and height of the cabinet, including its projecting accessories

3.4.3
overall external dimensions in service
dimensions necessary for the installation as well as the space to allow circulation of the air cooling the condenser, the opening and closing of doors and other devices for access to foodstuffs or which allow foodstuffs to be loaded, evacuation of defrost water, etc.

3.4.4
display
space in which the consumer can see the goods contained in the cabinet

3.4.5
display opening area
area obtained by multiplying the smallest length and width (or height as appropriate) for the opening area of the refrigerated cabinet

3.4.6
load limit
(each part of the cabinet) boundary surface consisting of a plane or several planes within which all test packages can be maintained within the limits for the M-package temperature class declared

3.4.7
load limit line
permanently marked boundary line denoting the edge of the load limit surface

3.4.8
net volume
volume containing foodstuffs within the load limit

3.4.9
gross volume
volume within the inside walls of the cabinet or compartment, excluding internal fittings, doors, or lids, if any, with these being closed and with the load limit being taken into account if the cabinet has no door or lid

3.4.10
total display area
TDA
total visible foodstuffs area, including visible area through the glazing, defined by the sum of horizontal and vertical projected surface areas of the net volume

Note 1 to entry: See ISO 23953-2:2015, Annex A.

3.4.11
visibility of products by arc method
VPA
total visible foodstuffs area, including visible area through the glazing, defined by the arc method in accordance with ISO 23953-2:2015, Annex B

3.5 Operating characteristics

3.5.1
air curtain
air flow going from the air discharge towards the air return, thereby limiting both heat and mass transfers between the cabinet's gross volume and the surrounding environment

3.5.2
normal conditions of use
operating conditions which exist when the cabinet, including all permanently located accessories, has been set up and situated in accordance with the recommendations of the manufacturer and is in service

Note 1 to entry: The effects of actions by non-technical personnel for purposes of loading, unloading, cleaning, defrosting, the manipulation of accessible controls and of any removable accessories, etc., according to the manufacturer's instructions are within this definition. The effects of actions resulting from interventions by technical personnel for the purposes of maintenance or repair are outside this definition.

3.5.3
defrosting
removal of frost, snow, and ice from a refrigerated display cabinet

3.5.3.1
automatic defrosting
defrosting where no action is necessary by the user to initiate the removal of frost accumulation and to restore normal operation

Note 1 to entry: It includes automatic removal of defrost water.

3.5.3.2
semi-automatic defrosting
defrosting where an action is necessary by the user to initiate the removal of frost accumulation and normal operation is restored automatically

Note 1 to entry: It either includes automatic removal of defrost water or entails manual removal of defrost water.

3.5.3.3
manual defrosting
defrosting where an action is necessary by the user to initiate the removal of frost accumulation and restoration to normal operation requires a further action by the user

Note 1 to entry: It either includes automatic removal of defrost water or entails manual removal of defrost water.

3.5.3.4
hot gas defrosting
defrosting with a partial flow of hot gas through the evaporator

3.5.4
compression-type refrigerating system
system in which refrigeration is affected by the vaporization at low pressure in a heat exchanger (evaporator) of a liquid refrigerant, the vapour thus formed being restored to the liquid state by mechanical compression to a higher pressure and subsequent cooling in another heat exchanger (condenser)

3.5.5
indirect-type refrigerating system
system in which a secondary refrigerant circulating system is installed between a central refrigerating system and a refrigerated cabinet

3.5.6
defrost water removal
process through which defrost water is removed from a refrigerated display cabinet

3.5.7
automatic removal of defrost water
removal and/or evaporation of defrost water that does not require any action by the user

3.5.8
manual removal of defrost water
removal of defrost water that requires an action by the user

3.5.9
secondary refrigerant
liquid or liquid-solid or gas-liquid fluid used in an indirect type refrigerating system to transfer heat

3.5.10
suction superheat
difference between the temperature of the suction vapour at a given point and the saturation temperature derived from the pressure at this point by the use of the thermodynamic data for the refrigerant specified

3.5.11
heat extraction rate
amount of energy to be removed per unit time from the refrigerated display cabinet at the specified operating conditions

3.5.12
direct electrical energy consumption
DEC
energy consumption of electrical components of the cabinet

3.5.13
refrigeration electrical energy consumption
REC
energy consumption of a conventional refrigeration system necessary to operate the cabinet

3.5.14
pumping electrical energy consumption
PEC
energy consumption of a conventional pumping system for secondary refrigerant necessary to operate the cabinet

3.5.15
total energy consumption
TEC
sum of DEC and REC

3.5.16
anti-condensate energy consumption
AEC
total daily energy consumption used in condensate removal on the outside of the commercial refrigerated display cabinet, which typically includes fan and condensate heater energy

3.5.17
defrost energy consumption
DFEC
energy consumed by defrost heaters during defrost period

3.5.18
fan energy consumption
FEC
energy consumed by fan motors

3.5.19
lighting energy consumption
LEC
energy consumed by lights fitted in the refrigerated display cabinet

3.5.20
condensate evaporator pan energy consumption
PEC
amount of heat energy required to change condensate from liquid to a vapour in the pan of an automatic water evacuation system of a cabinet with an incorporated condensing unit

3.5.21
compressor energy consumption
CEC
energy consumed by the compressor of a condensing unit incorporated in a refrigerated display cabinet

3.5.22
total revised energy consumption
TECR
sum of the revised refrigeration energy consumption (RECR) with the recalculated value of direct electrical energy consumption (DEC) when alternate electric components are used in a cabinet intended for a remote compression type or indirect type refrigerating system

3.5.23
additional refrigeration energy consumption
additional indirect effect of alternate electric component(s) on the refrigeration electrical energy consumption for a cabinet intended for a remote compression type or indirect type refrigerating system

3.5.24
published standard rating
statement of the assigned values of those performance characteristics, under stated standard rating conditions, by which a unit may be chosen for its application

Note 1 to entry: The term published standard rating includes the rating of all performance characteristics shown on the unit or published in specifications, advertising, or other literature controlled by the manufacturer, at stated standard rating.

3.5.25
standard rating
rating based on tests performed at standard rating conditions

3.5.26
rating conditions
set of operating conditions under which a single level of performance results and which causes only that level of performance to occur

3.5.27
standard rating conditions
rating conditions used as the basis of comparison for performance characteristics

3.5.28
incorporated compressor coefficient of performance
COP_{ic}
ratio between the cooling capacity in watts and the electric power input values in watts at any given set of rating conditions for an incorporated compressor

3.6 Test environment

3.6.1
M-package
test package fitted with a temperature measuring device

3.6.2
test package
package without temperature measuring device

Note 1 to entry: This package may be a box of plastic material in which the content shall be water soaked into a porous material such as natural, plastics, or cellulose sponge.

3.6.3
climate class
classification of the test room climate according to the dry bulb temperature and relative humidity

Note 1 to entry: See ISO 23953-2.

3.6.4
M-package temperature class
classification of M-package temperature according to temperatures of warmest and coldest M-packages during the temperature test according to ISO 23953-2

3.6.5
cabinet classification
designation given by the combination of climate class and M-package temperature class

EXAMPLE A cabinet tested in a test room climate class 3 with an M1 class would be designated as 3M1.

3.6.6
product temperature
one of the classifications defined in ISO 23953-2:2015, 4.2.2, Table 1.

Note 1 to entry: The product temperature establishes the performance level of the refrigerated display cabinets.

3.7 General

3.7.1
product family
group of cabinets

Note 1 to entry: See Annex A.

3.7.2
consumer
purchaser or end user of the goods

Note 1 to entry: See Figure 1.

3.7.3
serving personnel
store personnel who prepare and serve goods for consumers

Note 1 to entry: See Figure 1.

3.7.4
goods
items to be sold

3.7.5
foodstuffs
goods for consumption

Annex A
(informative)

Designation of refrigerated display cabinet families

Application	**Temperature positive**		**Temperature negative**	
To be used for	**Chilled foodstuffs**		**Frozen, quick frozen foodstuffs, and ice cream**	
Horizontal	Chilled, serve-over counter open service access	HC1	Frozen, serve-over counter open service access	HF1
	Chilled, serve-over counter with integrated storage open service access	HC2		
	Chilled, open, wall site	HC3	Frozen, open, wall site	HF3
	Chilled, open, island	HC4	Frozen, open, island	HF4
	Chilled, glass lid, wall site	HC5	Frozen, glass lid, wall site	HF5
	Chilled, glass lid, island	HC6	Frozen, glass lid, island	HF6
	Chilled, serve-over counter closed service access	HC7	Frozen, serve-over counter closed service access	HF7
	Chilled, serve-over counter with integrated storage closed service access	HC8		
Vertical	Chilled, semi-vertical	VC1	Frozen, semi-vertical	VF1
	Chilled, multi-deck	VC2	Frozen, multi-deck	VF2
	Chilled, roll-in	VC3		
	Chilled, glass door	VC4	Frozen, glass door	VF4
Combined	Chilled, open top, open bottom	YC1	Frozen, open top, open bottom	YF1
	Chilled, open top, glass lid bottom	YC2	Frozen, open top, glass lid bottom	YF2
	Chilled, glass door top, open bottom	YC3	Frozen, glass door top, open bottom	YF3
	Chilled, glass door top, glass lid bottom	YC4	Frozen, glass door top, glass lid bottom	YF4
	Multi-temperature, open top, open bottom			YM5
	Multi-temperature, open top, glass lid bottom			YM6
	Multi-temperature, glass door top, open bottom			YM7
	Multi-temperature, glass door top, glass lid bottom			YM8

R Remote condensing unit	V Vertical
I Incorporated condensing unit	Y Combined
A Assisted service	C Chilled
S Self-service	F Frozen
H Horizontal	M Multi-temperature

General classification can be used as follows: HC1, VF1, YM5. When necessary, the classification can be more precise, for example, RHC1A, IVF1S.

NOTE Serve-over counters are primarily in assisted service but can be in self-service. Chilled multi-deck cabinets are primarily in self-service but can be in assisted service.

Annex B
(normative)

Equivalent terms in other languages

English	Français	Deutsch	Italiano	Español
Refrigerated display cabinet	Meuble frigorifique de vente	Verkaufskühlmöbel	Mobile refrigerato per esposizione e vendita	Mueble frigorífico comercial
Vertical refrigerated display cabinet	Meuble frigorifique de vente vertical	Vertikales Verkaufs-kühlmöbel	Mobile refrigerato ad esposizione verticale	Mueble frigorífico comercial vertical
Semi-vertical refrigerated display cabinet	Meuble frigorifique de vente semi-vertical	Halbhohes vertikales Verkaufskühlmöbel	Mobile refrigerato ad esposizione verticale a mezza altezza	Mueble frigorífico comercial semi-vertical
Horizontal refrigerated display cabinet	Meuble frigorifique de vente horizontal	Horizontales Verkaufskühlmöbel	Mobile refrigerato di vendita orizzontale	Mueble frigorífico comercial horizontal
Closed refrigerated display cabinet	Meuble frigorifique de vente fermé	Geschlossenes Verkaufskühlmöbel	Mobile refrigerato di vendita chiuso	Mueble frigorífico comercial cerrado
Assisted service refrigerated display cabinet/serve-over counter	Meuble frigorifique de vente à service assisté	Verkaufskühlmöbel mit Bedienung/ Bedienungstheke	Mobile refrigerato di vendita a servizio assistito	Mueble frigorífico comercial servicio tradicional/Vitrina tradicional
Self-service refrigerated display cabinet/self-service counter	Meuble frigorifique de vente libre-service	Verkaufskühlmöbel zur Selbstbedienung	Mobile refrigerato di vendita a libero servizio	Mueble frigorífico comercial autoservicio
Serve-over counter with integrated storage	Meuble à service assisté avec réserve réfrigérée	Bedienungstheke mit eingebautem Vorratsfach	Mobile tradizionale con riserva refrigerata	Vitrina tradicional con reserve refrigerada
Combined refrigerated display cabinet with glass door top	Meuble frigorifique de vente combiné avec superstructure à portillon vitré	kombiniertes Verkaufskühlmöbel mit einem Glastürenaufsatz	Mobile refrigerato di vendita combinato con alzata a sportelli	Mueble frigorífico comercial mixto con puertas de cristal en la parte superior
Combined refrigerated display cabinet with open top	Meuble frigorifique de vente combiné avec superstructure ouverte	kombiniertes Verkaufskühlmöbel mit einem offenem Aufsatz	Mobile refrigerato di vendita combinato con alzata aperta	Mueble frigorífico comercial mixto con la parte superior abierta
Multitemperature combined refrigerated display cabinet	Meuble frigorifique de vente combiné multitempérature	kombiniertes Verkaufskühlmöbel für verschiedene Temperaturen	Mobile refrigerato di vendita multitemperatura	Mueble frigorífico comercial mixto multitemperatura
Movable front cabinet/roll-in cabinet	Meuble à façade mobile/Meuble à chariots	Möbel mit beweglicher Front/Containerregal	Mobile a caricamento anteriore	Mueble para carros con frente elevable
Back wall service cabinet	Meuble arrière à service assisté	rückwärtiges Bedienungsmöbel	Mobile posteriore di servizio	Mueble servicio trasero
Island run	Îlot	Inselmöbelreihe/ Gondel	Gondola	Isla
Internal angle	Angle fermé	Innenecke	Angolo chiuso	Ángulo interior

English	Français	Deutsch	Italiano	Español
External angle	Angle ouvert	Aussenecke	Angolo aperto	Ángulo exterior
End wall	Joue/Panneau d'extrémité	Seitenwand	Spalla	Lateral
Line-up/run	Linéaire	Reihe	Linea	Línea
Technical line-up/ zone	Linéaire technique	Technische Reihe	Linea tecnica	Línea técnica
Wall cabinet	Meuble mural	Wandmöbel	Mobile murale	Mueble mural
Island cabinet	Meuble îlot	Inselmöbel	Mobile ad isola	Mueble isla
End cabinet	Meuble tête de gondole	Kopfmöbel	Mobile di testa	Cabecera
Air discharge	Soufflage d'air	Zuluftöffnung	Mandata aria	Salida de aire
Air return	Reprise d'air	Rückluftöffnung	Ripresa d'aria	Entrada de aire
Shelf	Plan de chargement/ étagère	Auslage	Piano di carico/Ripiano	Estante
Price marking rail/ ticket holder	Porte-étiquette	Preisschiene	Portaetichette	Porta precios
Kickplate	Plinthe	Bodenleiste	Zoccolo	Zócalo
Night cover	Protecteur de nuit	Nachtabdeckung	Coperchio notte	Tapas nocturnas
Night blind	Rideau de nuit	Nachtrollo	Tenda notte	Cortinas nocturnas
Canopy	Fronton	Kopfblende	Cornice/fascia superiore	Frente superior/ Visera
Front panel(s)	Partie frontale	Frontblende(n)	Parte frontale	Parte frontal
Front	Avant	Front	Frontale	Frente
Front riser	Arrêt produit	vorderer Warenstopper	Ferma prodotto	Tope de productos
Handrail	Main courante	Handlauf	Corrimano	Pasamanos
Condensing unit	Groupe de condensation	Verflüssigungssatz	Unità condensatrice	Unidad condensadora
Base deck	Cuve	Bodenwanne/ Bodenblech	Vasca	Plano exposición
Shelf sham	Fausse masse	hinterer Warenstopper	Massa di caricamento fittizio	Falso volumen
Refrigerated shelf area	Aire des plans de chargement refroidis	Gekühlte Auslagefläche	Area dei piani refrigerati	Área de estantes refrigerados
Overall external dimensions at installation	Encombrement hors tout à l'installation	Gesamtaußenabmessungen bei Aufstellung	Dimensioni esterne totali di installazione	Dimensiones exteriores totales de instalación
Overall external dimensions in service	Encombrement hors tout en service	Gesamtaußenabmessungen bei Betrieb	Dimensioni esterne totali in servizio	Dimensiones exteriores totales en servicio
Display	Surface d'exposition	Auslagenfläche	Superfice espositiva	Superficie de exposición
Display opening area	Surface de l'ouverture d'exposition	Warensichtfläche	Area espositiva aperta	Superficie de exposición abierta
Load limit	Limite de chargement	Stapelgrenze	Limite di carico	Límite de carga

English	Français	Deutsch	Italiano	Español
Load limit line	Ligne de limite de chargement	Stapelmarke	Linea limite di carico	Línea de límite de carga
Net volume	Volume utile	Nettoinhalt	Volume netto	Volumen neto
Gross volume	Volume brut	Bruttoinhalt	Volume lordo	Volumen bruto
Total display area (TDA)	Surface totale de l'exposition (TDA)	Warenpräsentations-fläche	Superficie d'esposizione totale	Superficie total de exposición
Visibility of products by arc method (VPA)	Visibilité des produits par la méthode de l'arc (VPA)	Warensichtfläche nach der Bogenmethode	Visibilità del prodotto, con metodo dell'arco	Visibilidad de los productos por el método del arco
Air curtain	Rideau d'air	Luftschleier	Velo d'aria	Cortina de aire
Normal conditions of use	Conditions normales d'emploi	Normale Betriebsbedingungen	Condizioni normali di utilizzo	Condiciones normales de uso
Defrosting	Dégivrage	Abtauen	Sbrinamento	Desescarche
Automatic defrosting	Dégivrage automatique	Automatisches Abtauen	Sbrinamento automatico	Desescarche automático
Semi-automatic defrosting	Dégivrage semi-automatique	Halbautomatisches Abtauen	Sbrinamento semi-automatico	Desescarche semiautomático
Manual defrosting	Dégivrage manuel	Abtauen von Hand	Sbrinamento manuale	Desescarche manual
Hot gas defrosting	Dégivrage gaz chaud	Heissgasabtauung	Sbrinamento a gas caldo	Desescarche por gas caliente
Compression-type refrigerating system	Système frigorifique à compression	Kälteanlage mit Verdichter	Sistema refrigerato a compressione di vapore	Sistema frigorífico por compresion
Indirect-type refrigerating system	Système frigorifique de type indirect	Indirekte Kälteanlage	Sistema refrigerato di tipo indiretto	Sistema frigorífico de enfriamiento indirecto
Defrost water removal	Évacuation de l'eau de dégivrage	Beseitigung des Abtauwassers	Rimozione dell'acqua di sbrinamento	Evacuación del agua de desescarche
Automatic removal of defrost water	Évacuation automatique de l'eau de dégivrage	Automatisches Beseitigen des Abtauwassers	Rimozione automatic dell'acqua di sbrinamento	Evacuación automática del agua de desescarche
Manual removal of defrost water	Évacuation manuelle de l'eau de dégivrage	Entfernen des Abtauwassers von Hand	Rimozione manual dell'acqua di sbrinamento	Evacuación manual del agua de desescarche
Secondary refrigerant	Fluide secondaire/ Fluide frigoporteur	Sekundärer Kälteträger	Refrigerante secondario	Refrigerante secundario
Suction superheat	Surchauffe à l'aspiration	Sauggasüberhitzung	Surriscaldamento	Recalentamiento
Heat extraction rate	Puissance frigorifique utile	Kälteleistung	Potenza frigorifera	Potencia frigorífica
Direct electrical energy consumption (DEC)	Consommation d'énergie électrique directe (DEC)	Direkte elektrische Energieaufnahme (DEC)	Consumo energia elettrica diretto (DEC)	Consumo de energía eléctrica directa (DEC)
Refrigeration electrical energy consumption (REC)	Consommation d'énergie électrique de réfrigération (REC)	Der Kälteleistung entsprechende elektrische Energieaufnahme (REC)	Consumo energia elettrica per refrigerazione (REC)	Consumo de energía eléctrica en refrigeración (REC)

English	Français	Deutsch	Italiano	Español
Pumping electrical energy consumption (PEC)	Consommation d'énergie électrique des pompes (PEC)	Elektrische Energieaufnahme der Pumpen (PEC)	Consumo energia elettrica delle pompe (PEC)	Consumo de energía eléctrica de las bombas (PEC)
Total energy consumption (TEC)	Consommation totale d'énergie (TEC)	Gesamtenergieaufnahme (TEC)	Consumo totale di energia (TEC)	Consumo total de energía (TEC)
M-Package	Paquet-M	M-Paket	Pacco-M	Paquete-M
Climate class	Classe d'ambiance	Klimaklasse	Classe climatica	Clase climática
M-package temperature class	Classe de température des paquets-M	M-Paket Temperaturklasse	Classe di temperatura riferita ai pacchi M	Clase de temperatura de los paquetes-M
Cabinet classification	Classification du meuble	Möbelklasse	Classificazione del banco	Clasificación del mueble
Consumer	Consommateur	Verbraucher	Consumatore	Consumidor
Serving personnel	Serveur	Bedienungs-personal	Personale di servizio	Dependiente
Goods	Marchandise	Waren	Merci	Géneros
Foodstuffs	Denrées	Lebensmittelerzeugnisse	Alimenti	Comestibles

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