## **USER INSTRUCTION**

**READ CAREFULLY AND KEEP WITH THE CASE** 

# 用户手册

使用前请仔细阅读本说明书, 并妥善保存以备日后查阅

# CRYSTAL



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The company reserves the right to modify these models without notice. 如公司对所列之产品进行更新,恕不另行通知。

Model/型号 CRYSTAL

Manufacturer/制造商

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## INTRODUCTION — 简介

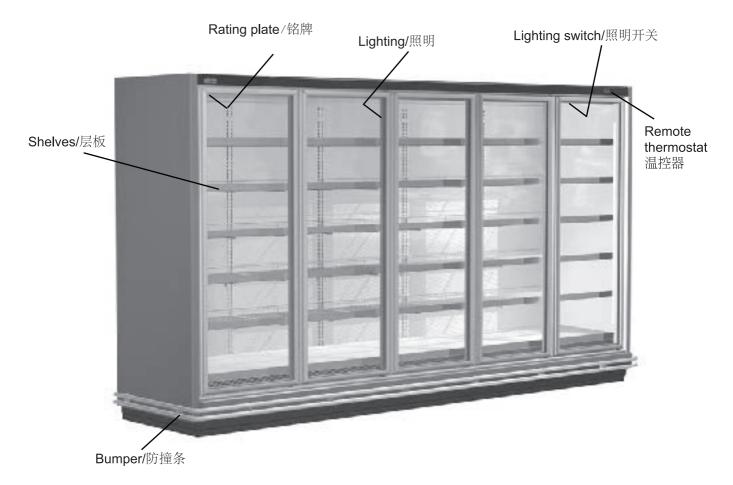


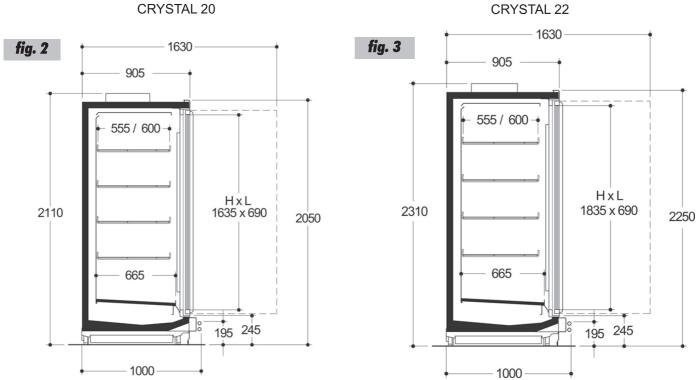
The present booklet has been formulated in a simple and rational way, in order for the reader to get deeply acquainted with his showcase. It must be read carefully and keep near the machine. The manufacturer assu-mes no responsibility for any personal injury or property damage which may be caused by non-compliance with the instructions contained in this booklet. Whoever operates the machine must have read this manual beforehand.

本说明书简明扼要的对产品进行阐述,用户可以深入了解产品。请在陈列柜使用前仔细阅读本说明书并妥善保管。厂商对未按照本说明书的操作而引起的人身伤害或者财产损失不承担任何责任。每个使用陈列柜的用户务必在使用前仔细阅读本说明书。

## **CRYSTAL**

## fig. 1





## **CRYSTAL**

## fig. 4



## tab. I

Crystal	Weight of the (k	case / 柜体重量 g)	Packed weight / 包装重量 (kg)					
	20	22	20	22				
2D	400	440	500	550				
3D	570	625	690	725				
4D	730	805	860	945				
5D	950	1045	1070	1170				

## Ambient conditions/使用环境





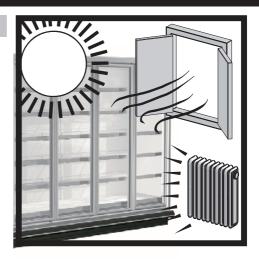




fig. 7

tab. II

Type of room / 房间类型	CLOSED / 封闭
Temperature / 温度	25 °C
Relative humidity / 相对湿度	60 % RH
Lighting / 照明	100 lx

## tab. III

Voltage/电压: 230 V/50 Hz

CRYSTA	FANS 风机			DEMIST HEATERS 除雾加热丝				LIGHTING 照明						DEFROST HEATERS				
CRISIA					H2000 H2200			H2000			H2200		除霜加热管					
					230V - 50/60				Hz						380V - 50/60Hz			
	*	Nr	W	Α	Temp	W	Α	W	Α	*	Nr	W	Α	W	Α	Nr	W	Α
2D	α	3	114	1	ВТ	514	2.3	528	2.3	а	3/4	171	0.75	228	1	3 2100		9.1
										b	3	207	1	234	1.1		2100	
	β	3	34	0	TN	119	0.5	129	0.6	C	3	207	1.9	234	2.1		2100	
										d	3	59	0.28	72	0.34			
3D	α	4	152	1	ВТ	747	3.3	768	3.4	а	4/6	228	1	342	1.5	3	2796	12.2
										b	4	276	1.2	312	1.4			
	β	4	45	0	TN	176	0.8	192	0.8	С	4	276	2.4	312	2.7			
										d	4	84	0.4	101	0.48			
4D	α	5	190	1	ВТ	1007	4.4	1044	4.54	а	5/8	285	1.3	456	2.2	3	3849	16.7
										b	5	340	1.5	390	1.7			
	β	5	57	0	TN	235	1	254	1.1 c	С	5	340	3	390	3.4			
	2	3	5	٥	111	233	•	234		d	5	109	0.52	129	0.62			
5D	α	7	266	2	ВТ	1227	5.3	1306	5.7	а	6/10	342	1.6	570	2.7	3	4929	21.4
					ы	1221				b	6	412	1.9	468	2.2			
	β	7	79	1	TN	293	1.3	318	1.4	С	6	412	3.6	468	4.1			
		′								d	6	134	0.64	158	0.75			
End panel / 端板	1P				ВТ	105	0.5	117	0.5									

#### \*REMARK / 备注

- α: Standard fan / 标准风机
- β : Energy saving fan / 节能风机
- a: Lamp T5 Ø16mm + electronic ballast / T5灯电子镇流器
- b: Lamp T8 Ø26mm + electronic ballast / T8灯电子镇流器
- c: Lamp T8 Ø26mm + ferromagnetic ballast / T8灯普通镇流器
- d: LED LAMP / LED灯



## fig. 8

## Use of the cabinet/柜体使用



fig. 9



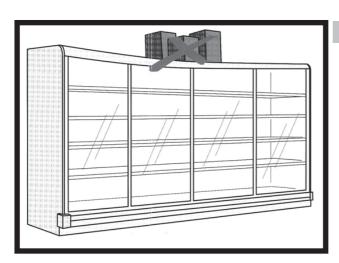


fig. 11



fig. 12



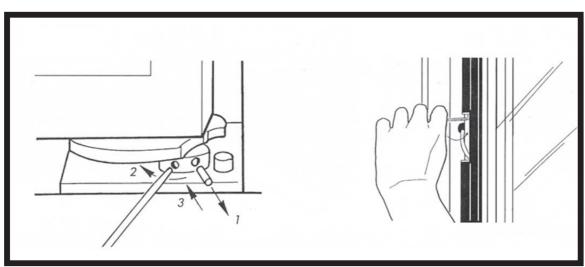


fig. 15

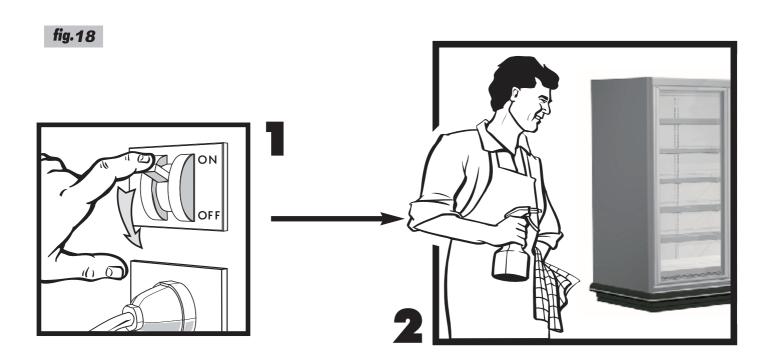


fig. 16

fig. 17



## Ordinary maintenance/日常维护



## **ENGLISH**

#### 1. DESCRIPTION

CRYSTAL is available in four different lengths and in two different heights. The low-temperature version of this showcase is meant for the preservation of ice-creams and frozen food (class L), whereas its positive-temperature version is for the preservation of fresh pre-packed food (class M). Its main features and dimensions are clearly illustrated in drawings 1, 2, 3, on page 2. As for its weights, crating included and excluded, see table I and drawing 4 on page 3. A wide variety of optional accessories enabling enhanced functions is also available. To this respect, contact the authorized after-sales service only.

#### 2. TRANSPORTATION

The display cabinet is contained in a specially created package that enables transportation by the use of fork-lift trucks. Handle the machine on its own pallet or on a similar platform; use a fork lift, either manual or electric, provided it is adequate for handling such appliances and it has the requisite lifting capacity (see page 3 - fig. 4 and table I). Handling is reserved to the authorized after-sales service.

#### 3. DELIVERY AND STORAGE

Prior to accepting the case from the carrier, check the conditions of the package. If it is showing visible damage, the machine too may have been impaired. In this case, unpack the machine in the presence of the carrier and sign, though with reservation, the delivery bill. The manufacturer assumes no liability for damage caused by transportation or wrong handling during storage. Unpacking is reserved for the authorized after-sales service. Storing temperature must be between  $-25^{\circ}$ C and  $+55^{\circ}$ C, air humidity between 30% and 95%. Keep the cabinet safe from direct sunlight and from the elements.

#### 4. INSTALLATION AND AMBIENT CONDITIONS

The display case must not be installed in premises containing explosive gas substances. It can neither be used in the open nor exposed to the rain.

Before connecting the case make sure that its rating plate data correspond to the features of the existing electrical installation (see page 4 - fig. 8 and tab. III). For correct operation, the machine must be placed on a level floor (see page 3 - fig 5), far from sources of heat and/or direct sunlight, doors, windows, fans or ventilation outlets (see page 3 - fig.6). It must also be granted a reasonable free front area for customer service.

The display case must be housed in a room conforming to the ambient requirements mentioned in page 3 - fig. 7 and tab. II.

IMPORTANT: placing fixed panels on the top of the cabinet is advised against, as this part must be accessible for servicing purposes.

#### 5. ELECTRICAL CONNECTION

IMPORTANT: ahead of the case there must be an MULTIPOLAR CUT-OFF SWITCH WITH CONTACTS SPACING AT LEAST 3 MM AND WITH THE ADEQUATE CIRCUIT-BREAKING POWER. (see fig. 18). The position of the cut-out switch must enable its actuation in any emergency situation (maximum distance 3 m). Show the position of the cut-out switch to any prospective operator.

The refrigerator must be installed by professionally qualified personnel, in accordance with the instructions provided by the manufacturer and local regulations. Incorrect installation may cause harm to persons, animals and property. The manufacturer assumes no responsibility for such damage.

Make sure that the system power supply voltage corresponds to the values appearing on the rating plate of the equipment. Consider also that the maximum allowable power voltage variation is +/-6%.

IMPORTANT: THE EQUIPMENT MUST BE PROPERLY EARTHED. The manufacturer assumes no responsibility for any damage resulting from non-observance of this safety principle. If the cabinet must be installed far from electric power source, make certain that the connection complies with the standards in force.

THE MANUFACTURER DISCLAIMS ALL RESPONSIBILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE ARISING FROM INCORRECT INSTALLATION.

#### 6. TECHNICAL SPECIFICATIONS

The built-in electrical installation is composed of control devices lodged in the upper part of the refrigerated cabinet. The technical details, which are also reported on the rating plate, inside the display case (see fig. 8 on page 4) are shown in table III, page 4.

The sound level generated by the equipment is below 70 dB(A). This refrigerated cabinet generates no harmful vibrations.

WE HEREBY DECLARE THAT THE CABINET AT ISSUE COMPLIES WITH D.L. (DECREE LAW) AS EXECUTING ECC DIRECTIVE ON MATERIALS AND OBJECTS FIT FOR CONTACT WITH EDIBLES.

#### 7. LOADING PRODUCTS

Once the technicians have completed cabinet installation, switch it on through the wall cut-out switch. The cabinet will then start its cooling cycle. Allow about two hours before loading products, which must already be at their preservation temperature. THE DISPLAY CASE IS FACTORY-REGULATED FOR THE ANTICIPATED PERFORMANCE.

When loading products make certain that:

- they are similar in size and type;
- the shelf load limit (140 kg/sq.m for shelves) is not exceeded;
- products do not cover the slots that ensure the correct circulation of cool air (see fig. 9, page 5).

#### 8. USE

The showcase was designed and manufactured exclusively for the display of ice-creams and frozen food in its low temperature version (class L), of pre-packed fresh food in its positive temperature version (class M). Its function is preserving food temperature, not lowering it. Therefore, when introduced, THE FOODSTUFFS MUST BE AT THEIR CONSERVATION TEMPERATURE. Do not load foods that have undergone heating. Use padded gloves when handling ice-creams and frozen food.

#### **OPEN DOOR LOCKING SYSTEM**

For loading and cleaning purpose the door can be locked in open position by shifting the locking system as shown by the arrow in the figure 16.

#### TENSION ADJUSTMENT OF DOOR CLOSING SPRING

If the tension of the return spring has to be increased, it is necessary to carry out the steps in figure 17.

#### **CONTROLS**

Up on the right inside, cabinets are fitted with a switch for the control of product lighting and with a remote thermostat/ thermometer for temperature control. The remote thermostat displays the temperature existing inside the case and allows temperature control by the use of the appropriate keys.

**WARNING:** Adjustment is reserved for the technical personnel.

SHELVES: the shelves were designed to bear a maximum load of 140 kg/sq.m. for shelves.

#### 9. PRESCRIPTIONS AND RESTRICTIONS

Keeping pharmaceutical products in the display case is strictly forbidden (fig. 10).

Do not remove protections or panels when it requires the use of tools. IN PARTICULAR, DO NOT REMOVE THE ELECTRIC CONTROL BOARD COVER AND THE SCREWS FASTENING SHELF LIGHTING PLUGS.

Do not expose the display case to atmospheric agents (fig. 15). DO NOT STEP on the cabinet bumper rail. DO NOT STEP on the top of the cabinet and DO NOT LAY WEIGHTS on it (fig. 11).

Do not spill water directly or indirectly on the display case (fig. 13). Do not touch the equipment with damp or wet hands or feet; do not use it while barefoot (fig. 14).

ANY OTHER USE NOT EXPRESSLY MENTIONED IN THIS BOOKLET MUST BE CONSIDERED AS HAZARDOUS.THE MANUFACTURER ASSUMES NO RESPONSIBILITY FOR ANY DAMAGE RESULTING FROM IMPROPER, INCORRECT OR UNREASONABLE USE.

#### 10. ORDINARY MAINTENANCE

ATTENTION! BEFORE STARTING ANY MAINTENANCE OR CLEANING, DISCONNECT THE EQUIPMENT FROM THE ELECTRICAL POWER SUPPLY USING THE MAIN WALL CUT-OFF SWITCH (fig. 18).

IMPORTANT: During maintenance or cleaning operations, be sure that the light in the working area is sufficient and if necessary, use an additional source of light.

#### **CLEANING THE DISPLAY CASE**

1) Every week clean the outer surfaces of the display case with mild soap or detergent in lukewarm water only. Wipe carefully with a soft cloth. Never clean it using inflammable or scouring agents, alcohol, acetone or solvents.

NEVER CLEAN THE DISPLAY CASE BY THE USE OF WATER JETS. Clean glass surfaces using glass-cleaning products exclusively. The use of water is not recommended here, as it may cause scale to build up.

#### CAUTION! NEVER WASH OR CLEAN THE UPPER PART OF THE DISPLAY CASE WITH WATER OR LIQUIDS

- 2) Every month clean the inside surfaces following the instructions provided in the preceding item:
- 3) Defrost the display case every three months to let the ice that may have formed between the fins melt. Frost may otherwise prevent correct operation. Proceed as follows.
- Disconnect the display case from the electrical power supply by the wall main cut-off switch (fig. 18).
- Empty the appliance, store the contents in cold rooms or refrigerators that are adequate for keeping the requisite preservation temperature.
- Clean the inside of the display case thoroughly with mild soap or detergent and lukewarm water. Wipe carefully with a soft cloth.
- After having carefully checked that the display case is completely dry inside, start the appliance again by the wall cut-out switch.
- Allow a couple of hours before loading the products back again.

Attention! Disassemble and assemble very slowly, using heavy-duty gloves. It is advisable to have these cleaning operations carried out by authorized service personnel.

ANY MAINTENANCE OPERATION NOT INCLUDED AMONG THE FORMER STEPS MUST BE CARRIED OUT BY THE AUTHORISED AFTER-SALES SERVICE OR BY QUALIFIED PERSONNEL.

LIGHTING: lamps must be replaced by the after-sales service only. Resort to it if need be.

#### 11. EMERGENCY SITUATIONS

- 1) The display case will not start or will not keep on working:
- there may be a general black-out;
- the wall main switch may be off.

If power failure is not due to any of the above causes, call the nearest after-sales service immediately, empty the display case and store the foods in coldrooms or refrigerators that may ensure preservation temperature.

- 2) The display case will not cool properly:
- make sure that the product load is correct and the air slots are not covered;
- defrost and clean it before starting normal operation (see chapter 10);
- make sure that the case is not exposed to sources of heat or draught;
- check that the display case is perfectly horizontal by the use of a spirit level. Make certain that ambient conditions comply with the requirements of page 3.

Should insufficient cooling persist, resort to the nearest after-sales service.

- 3) The cabinet operates noisily:
- Make sure that screws and bolts are closed tight;
- Check that the display case is perfectly horizontal by the use of a spirit level.

IN CASE OF A GAS LEAK OR FIRE, do not breathe inside the room that houses the display case before having aired it properly. Turn the display case off by the main switch ahead (see fig. 18). DO NOT USE WATER BUT ONLY DRY EXTINGUISHERS TO FIGHT THE FIRE.

#### 12. AFTER-SALES SERVICE

Should it be necessary to resort to technical assistance, contact your sales person immediately. If spare parts are needed, always refer to your after-sales service: insist on the use of original spare parts.

#### 13. DISMANTLING AND DISPOSAL

Please, for the sake of the environment, sort the parts and materials composing the cabinet in accordance with the waste disposal provisions in force in your country, so that they can be properly disposed of or recycled. All its parts cannot be treated as solid urban waste, except for the metal parts, which nevertheless are not considered as special waste by most countries. the parts composing the refrigerating circuit must not be severed or separated but delivered intact to a centre specialised in recycling refrigerant gas.

## 中文

#### 1. 概述

CRYSTAL有四种长度两种宽度。低温柜型适用于展示冰激凌及冷冻食品(L级),中温柜型适用于展示预包装新鲜食品(M级)。陈列柜主要特征及尺寸请参照第二页图1,2,3。关于陈列柜的重量,请参照第三页图4及表1中含包装及不含包装重量。陈列柜备有大量可选附件用于扩充陈列柜功能,此项事宜请与指定售后服务商或厂家联系。

#### 2. 运输

陈列柜都由特制的木箱包装以便于叉车运输。将设备搬运到自带的托盘或类似平台上,使用有足够举重能力能够搬运这样陈列柜(参看第3页图4和表1)的手动或电动的升降式叉车。由指定的售后服务商实施搬运。

#### 3. 交货和存放

在签收货物前,请先检查陈列柜的外包装。外包装的损坏有可能引起陈列柜的损伤。如果外包装确有损坏,请在货运商面前拆箱并在交货单上签字标注,请保管好交货单并保留对承运商索赔的权利。厂商对因运输或在存放中的不正确搬运而引起的损坏不承担任何责任。拆箱工作应由指定的售后服务上进行。陈列柜的存放温度介于-25℃和55℃之间,空气湿度在30%和95%间。陈列柜要远离阳光直射和电子元件。

## 4. 安装和使用环境

陈列柜绝对不能安装在含有爆炸性气体的房屋里,也不能在露天或雨中使用。

在连接陈列柜前,请确认陈列柜铭牌中的数据与实际陈列柜相符(参看第4页图8和表III)。正确的操作:将陈列柜放在水平地面上(参看第3页图5),远离热源和(或)阳光直射、门、窗、风扇或通风口(参看第3页图6)。在陈列柜前方要留出适当的空间便于顾客取货。安装陈列柜的房间里必须符合第3页,图7和表II中列出的要求。

重要事项: 出于维修考虑,请不要在陈列柜顶部安装固定板以避免阻碍日后维修。

#### 5. 电气连接

重要事项:在陈列柜(除了已经配备的主从类型)的前面必须安装一个**有足够断电能力,触点间距至少3mm的多极断电开关**(参看图18)。在任何紧急情况下断电开关的位置都能接触到(最远距离3米)。每个可能操作陈列柜的人员必须知道断电开关位置。

陈列柜的安装必须由专业人员按照厂商提供的使用说明书和当地的规定进行。厂商对因不正确的安装造成的对人、动物的伤害及财产损失不承担任何责任。

确认电源电压符合陈列柜铭牌中标明的电压数值。请注意最大的电压变化范围为+/-6%。

重要事项: 陈列柜必须正确接地。厂商对因不遵守这一安全准则而造成的一切危险后果不承担任何责任。如果陈列柜必安装在远离电源地方,须确保电路按照国家规定正确连接。

厂商对因错误电气安装而引起的任何人身伤害或财产损失都不承担任何责任。

#### 6. 技术规格

陈列柜内的电路装置其控制系统在陈列柜顶部。详细技术参数参看第4页表III。在陈列柜的铭牌上也有体现(参看第4页图8)

噪声低于70分贝。陈列柜不产生有害振动。

我们在此声明陈列柜符合可与食物接触的物料的规定。

#### 7. 装货

陈列柜通过墙面电源开启。陈列柜电源开启即会启动制冷系统。陈列柜装货前需运转两小时才 能达到保鲜所需温度。**陈列柜的预期性能已作了出厂设置**。

陈列柜装货时请确认:

货品大小和品种类似。

层板最大承重140公斤/平方米

货品不会阻碍冷气的流通。(参看页5图9)

## 8. 使用方法

CRYSTAL低温柜型设计用于存放展示冰激凌及冷冻食品(L级),中温柜型设计用于存放展示预包装新鲜食品(M级)。陈列柜的功能主要是保持食物的鲜度,而不是降低食物的温度。所以,当放入食品时,食品必须在保鲜温度范围内。不能将加热过的食品放入陈列柜。当搬运冰激凌及或冷冻食品时请佩戴带衬垫的手套。

## 拉门开启锁止装置

当装卸货品或清洁时,如图16所示,可以通过按动拉门开启锁止装置将拉门保持在开启状态。

## 拉门关闭回弹力调节

当拉门开启关闭时的回弹力需要调节时,请参照图17进行调节。

#### 温控器

陈列柜右上侧安装了产品照明开关及温控器或显示器。温控器显示的是柜内温度,可以用调节 键对柜内温度进行调节。

警告: 温度调节应由专业技术人员进行操作。

层板:层板的最大承重为140公斤/平方米。

#### 9. 规定和限制

严格禁止将药剂产品放入陈列柜中(图10)。

需要用工具才能取下的盖子或者面板不能移动,**尤其是不能移动电控箱盖及用于固定层板照明**的螺丝。

不能将陈列柜放在室外(图15)。不能踩踏陈列柜防撞条。不能站到陈列柜顶部,陈列柜顶部 不能放置重物(图11)。

不能直接或间接的将水倒在陈列柜上(图13)。不能用湿的手或脚接触陈列柜,赤脚时不能操作陈列柜(图14)。

本说明书中未说明的其他用途都被认为是危险的。厂商对因不规范的、不正确的或者不合理的使用而产生的一切损害不承担任何责任。

#### 10. 日常保养

注意:在保养或清洁前,必须给陈列柜断电(图18)

重要事项:在保养或清洁操作时,确保工作区域光亮充足。如有需要的话,使用额外光源。同时注意发热的和活动的部件标有相应标识。推荐使用耐磨手套。

#### 清洁陈列柜

1)每周清洗陈列柜的外表面,请用温和型肥皂或溶在冷水里的清洗剂,用软布仔细擦拭。不能使用可燃的、洗涤剂、酒精、丙酮或溶剂。

不能用水枪冲洗陈列柜。只能用玻璃清洁产品清洁玻璃。这里不建议使用水,因为有可能使污垢增多。

#### 警告: 陈列柜顶部绝不能用水或液体进行清洗。

- 2)每月按照前面提及的指导清洁陈列柜的内部表面:
- 3)每3个月陈列柜需对蒸发器片间形成的冰进行除霜,结霜会影响陈列柜正常运行。步骤如下;
- -使用墙上主开关给陈列柜断电(图18):
- -取出陈列柜中存放的物品,把这些物品转放到冷库或者其它有足够的达到保鲜要求能力 的冷藏设备里;

- -等到陈列柜的温度达到室温后,按照上面提到的方法清洁;
- -仔细检查陈列柜已经完全干燥后,重新安装并开启陈列柜电源:
- -装货陈列柜需要运行几个小时。

注意:请慢慢拆卸和安装,佩戴耐磨手套。建议由授权服务人员进行这些操作。

上述没有涉及到的任何保养操作都必须由指定的售后服务或者有资格的人员进行。

照明: 灯必须由指定售后服务人员进行更换。

#### 11. 突发状况

1) 陈列柜不能启动或者不能继续工作: 可能是停电; 墙面电源关闭;

如果不是因为上述原因导致电的问题,请立即联系最近的售后服务商,清空陈列柜并将食品转存到冷库或者别的能确保食品保鲜的冷藏设备里。

2) 陈列柜制冷不正常:

确保正确的陈列柜里装货的方法;

在正常操作前先除霜和清洁:

确认陈列柜没有暴露在热源或者干燥环境里:

使用水平仪检查陈列柜是否水平放置,确认陈列柜适用环境符合第三页要求。

如果陈列柜继续制冷不足,请与最近的售后服务商联系。

3) 柜子运转有噪声:

确认螺丝螺栓已经拧紧: 使用水平仪检查柜子是否水平放置。

假如有气体泄漏或者起火,在空气流动正常前,需在放置陈列柜的房间里屏住呼吸。关闭柜子的电源给柜子断电(参看图18)。**不能用水而要用灭火剂来灭火**。

#### 12.售后服务

需要技术帮助的时候请立即与销售人员联系。如果需要配件,与售后服务商联系:要坚持使用原装配件。

#### 13. 分解和处理

为了保护环境,请按照本国垃圾处理法规规定来分类存放陈列柜的部件和材料,从而可以将这些物料正确处理和回收。所有的部件不能被当作城市固体垃圾,金属部件除外,大部分国家金属部件不被认为是特殊垃圾。组成制冷系统的部件不能重新利用或者单独使用,只能完整的送往专业回收制冷设备的中心。

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