



商用冷藏柜 / 冷冻柜

COMMERCIAL REFRIGERATOR/FREEZER

使用说明书

INSTRUCTION MANUAL



HRE/HFE-127MA-₋HD

- 使用说明书是本产品不可分割的重要组成部分，用户须妥善保管。
- 请务必仔细阅读本使用说明书中描述的指南和警告事项，因为这些指南和警告事项为安装人员/用户提供了正确安装、持续安全地使用和保养本产品所需的重要信息。
- 请妥善保管本使用说明书，以便必要时参考使用。

- This booklet is an integral and essential part of the product and should be kept and preserved by the user.
- Please read carefully the guidelines and warnings contained herein as they are intended to provide the installer/user with essential information for the proper installation and the continued safe use and maintenance of the product.
- Please preserve this booklet for any further consultation that may be necessary.

生产商：星崎电机(苏州)有限公司
Manufacturer: Hoshizaki (Suzhou) Co., Ltd.

HRE-77MA- * HD
HRE-77MA- * LD
HRE-127MA- * HD
HRE-127MA- * LD
HRE-147MA- * HD
HRE-147MA- * LD
HRE-187MA- * HD
HRE-187MA- * LD
HRE-70MA- * HD
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HFE-70MA- * LD
HFE-140MA- * HD
HFE-140MA- * LD
HRFE-77MA- * HD
HRFE-127MAF- * HD
HRFE-147MAF- * HD
HRFE-187MAF- * HD

* : C, S, A, P, T

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警告

请勿弄湿本产品或在潮湿环境下使用本产品。否则可能会导致漏电，进而造成触电或火灾。

保持干燥

重要

1. 本冷藏柜/冷冻柜为商用设备，仅适用于该设备所指定的设计用途。用于任何其它用途将被认为使用不当，并且将非常危险。对因本产品使用不当、使用不正确和不合理而引发的任何后果，生产厂家恕不承担责任。

2. 本产品不适合残障、智障及缺乏相应经验和知识的人士(包括儿童)单独使用，除非有专人负责其安全，并对其使用本产品加以监督和指导。另外还应对年幼儿童加以看管，以确保其不玩耍本产品。

I. 安装说明

1. 各部分名称(HRE-127MA-CHD)

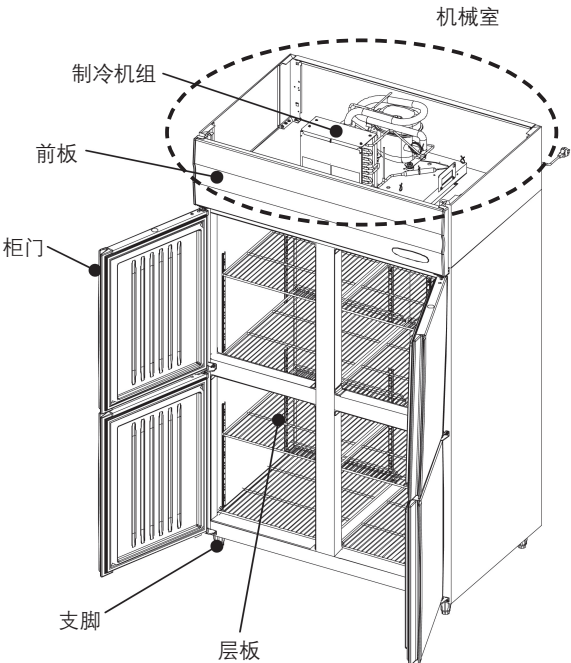


图 1

2. 附件

宽度	700mm	1200/1400mm	1800mm
a) 层板:	4 [4]	8 [8]	12 [12]
b) 层板托:	16 [16]	32 [32]	48 [48]
c) 层板支架:	4 [0]	8 [0]	12 [0]

注：1. 中括号中的数值适用于无层板支架的机型。
2. 定制产品的附件可能会与上述不同。

3. 位置

重要

本冷藏柜/冷冻柜仅供室内使用。正常的工作环境温度应介于5℃至43℃之间。

为达到最佳性能:

- * 请勿将冷藏柜/冷冻柜摆放在炉子、烤架或其它会产生高温的设备附近。
- * 摆放位置应坚实，足以承受设备重量。
- * 应避免将本机安装在出现滴水的场所。采用并排或背靠背安装方式(可能是与其它厂商的产品一起安装)时，由于两台机器之间可能会出现冷凝，从而导致冷凝水滴落到地板上。
- * 请勿将本机暴露在直射阳光或高温下。
- * 在本机的前部至少留出100cm的空间,以确保顺利地开关门。在本机顶部和天花板间应至少留出30cm的空间，以确保空气流通顺畅。

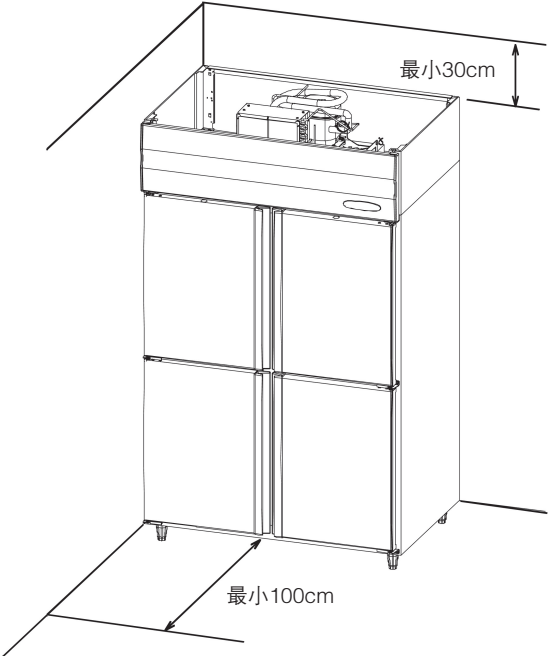


图 2

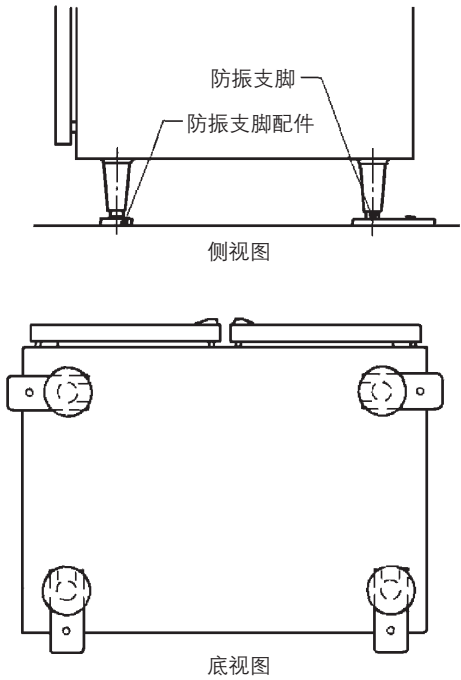


图 3

* 请使用下列防倾翻套件(选配件)固定四个支脚，以防设备倾翻：

[防倾翻套件]	
可调节支脚(4Y2042-01、选配件)	4个
防振支脚(454440-01、选配件)	4个
防振支脚配件(454441-01、选配件)	4个
地脚螺栓M10(自备)	4个

- [安装示例]
- 1) 将脚轮/可调节支脚更换为选配的可调节支脚。
 - 2) 将支脚的可调节端更换为防振支脚。
 - 3) 将后部的两个防振支脚配件固定至地板上。
 - 4) 将冷藏柜/冷冻柜安装至固定好的防振支脚配件上。
 - 5) 固定前部的防振支脚配件。

* 沿正确的方向使防振支脚配件就位，以充分发挥地脚螺栓的固定作用。

* 使用防振支脚会使高度增加5mm左右。

4. 安装方法

重要

1. 安装支脚时，请勿将本机倾斜超过45°。
2. 搬动本机时，请托住其底部。

- 1) 剪断运输胶带，拆下纸板箱。
- 2) 取出附属的层板、层板托和支脚。将4个层板托水平安装到层板立柱上，并将层板放置在层板托上。
- 3) 从本机的底部拆下2个螺栓。

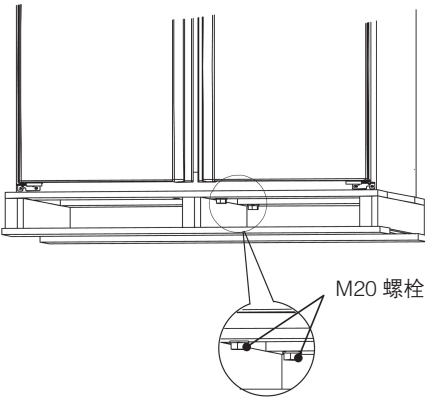


图 4

4) 将本机在托架上转动90°，使本机侧向倾斜，然后安装两个可调节支脚。

注：应使调节器的高度超出托架2cm，以便于拉出托架。

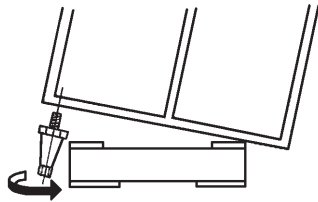


图 5

- 5) 使本机朝反方向倾斜，并安装另外两个支脚。
- 6) 将托架从本机底部滑出。
- 7) 再次将本机侧向倾斜，然后安装中间位置处的两个支脚。该操作仅限180型(1800mm宽)机器。
- 8) 将本冷藏柜/冷冻柜在左右和前后方向上调水平。若要调节本机高度，请转动可调节支脚的调节器。

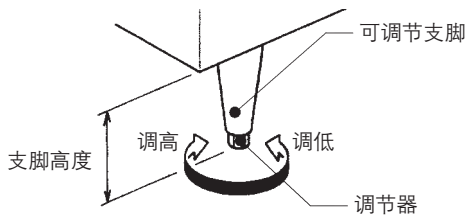


图 6

注意

可调节支脚的高度必须在9~12(某些机型为15~18)cm的范围内。如果伸出过长，可能会减弱支脚强度，或者导致调节器脱落，造成意外受伤。

9) 撕掉柜门和前面板上的塑料防护膜。

注：某些定制机型配有脚轮。

5. 层板和导轨

[a] 层板和层板托(标准)

* 层板高度可以“2.5”高度单位进行调节。请根据存放物品的高度调节层板托。

* 若要安装层板托，请将上部凸片插入层板立柱中的调节孔以钩住层板托，然后将下部凸片推入另一个调节孔，直至其锁止到位。若要拆下层板托，请按照与上述相反的步骤操作。

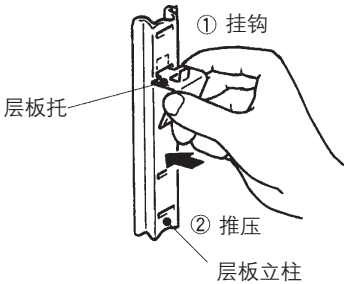


图 7

注意

请正确安装层板托，以保持层板水平。

* 如下图所示，若要将层板放于柜体的底部，请在左右边框处分别安装两个层板支架。

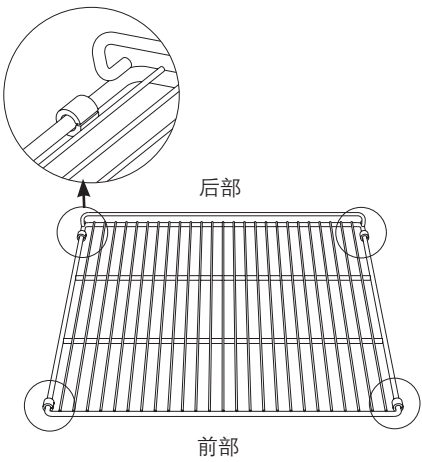


图 8

重要

请勿在柜体底部放置任何物品，以防止柜体底部受损或变形，从而导致腐蚀。

[b] 导轨(定制)

* 若要安装导轨，(1)请将导轨挂钩向后推入后层板立柱上的方孔，(2)然后将导轨挂钩向下推入前层板立柱上的方孔。若要拆下导轨，请按照与上述相反的步骤操作。详见图9。

注意
请正确安装层板托，以保持层板水平。

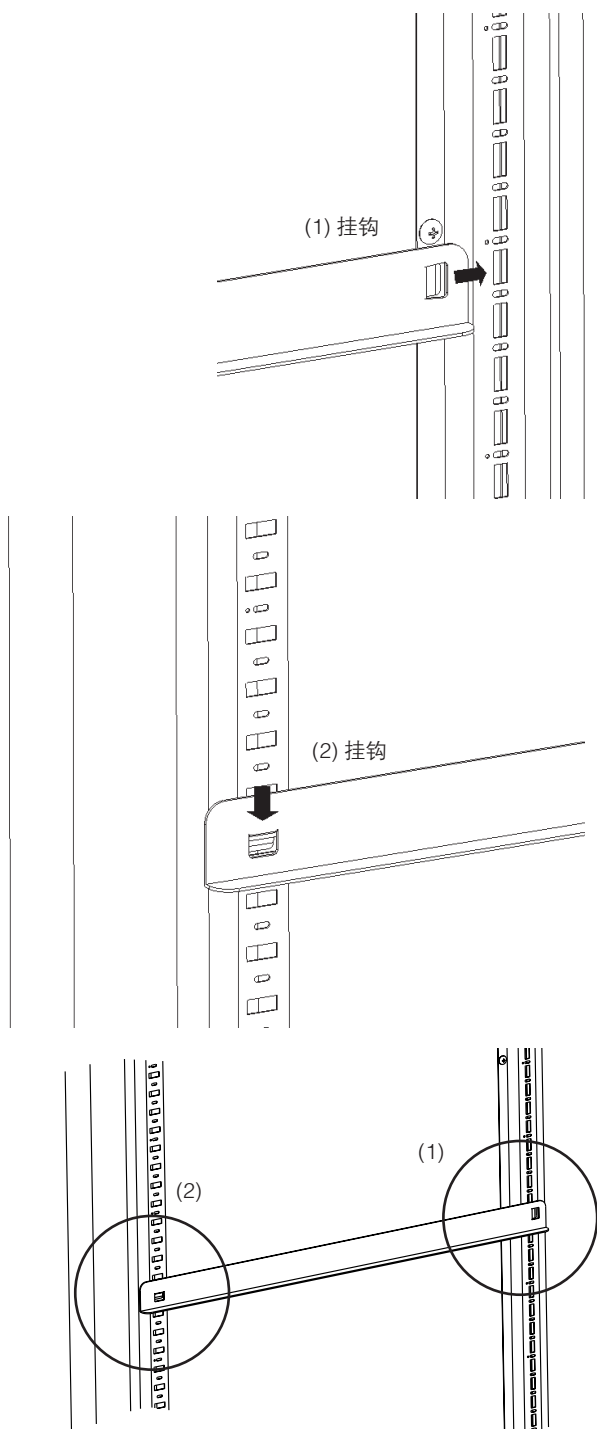


图 9

[c] 支撑杆(定制)

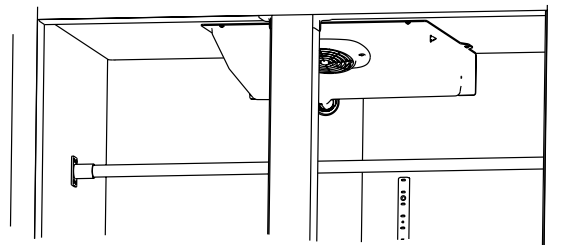


图 10

6. 电气连接

重要

本冷藏柜/冷冻柜未配备电源开关或接地漏电断路器，而只配备过电流保护装置。请在主电源上安装一个额定电流不小于15A的接地漏电断路器。

* 本冷藏柜/冷冻柜的电源插头必须插入单独的电源插座，且该插座必须方便插拔并具有足够的容量。允许的最大电压波动不得超过铭牌上规定的额定电压的 $\pm 10\%$ 。详情请参见铭牌。

* 如需更换电源线和插头，请务必交由具备相应知识的维修工程师进行更换，以免发生危险。

7. 排水管连接

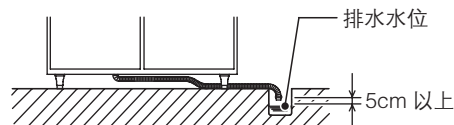
小心

请务必切实连接好排水软管。否则，排水软管可能漏水，进而破坏周围环境。

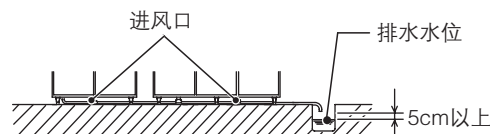
重要

1. 排水管路应尽量短而直，且应保证有足够的坡度及落差，以确保管路高度始终低于排水口。

2. 为防止废水回流，请勿将排水软管直接连至下水道系统。请在排水软管的末端与排水水位间至少留出5cm的空隙。



3. 当安装2台以上的机器时，请勿将排水软管连在一起。如果需要连接在一起，请在每台机器间留出足够的空隙。



* 排水口位于柜体的底部。请使用附件连接排水软管。

- 1) 请将挠性软管一端(直径18mm)插入除霜排水口中，再用附带的排水软管卡箍固定挠性软管。
- 2) 将挠性软管的另一端(外径26 mm)连接到下水道系统处。

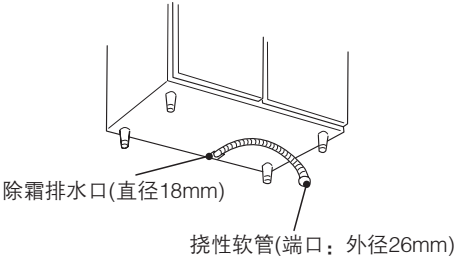


图 11

- * 某些机型可能不提供排水软管。如有需要，请将选购的排水软管总成(471190A02)连接到位于本机后下方外径为18mm的排水口处。
- * 强制排水蒸汽机型(定制)未配备排水口。排水在机体后侧内部蒸发。

II. 操作说明

重要

- 1. 请不要弄湿机械室。否则会导致本机故障或触电。
- 2. 为防止触电，请勿用湿手触摸连接插头。
- 3. 请勿在本机中存放易挥发或易燃物品，如汽油、乙醚、粘合剂和LPG。
- 4. 本冷藏柜/冷冻柜的设计用途是临时存放食物。将其用于任何其它用途(例如存放疫苗、血清等化学或医学用品)可能会导致存放的物品变质。
- 5. 请勿将物品抛掷到层板上或者在单块层板上放置60kg以上的物品。否则层板可能会掉落并导致受伤。
- 6. 请勿在出风口处存放玻璃瓶或易拉罐。否则，瓶罐中的液体可能会结冰和破裂，进而导致受伤。
- 7. 请勿在本机附近使用可燃喷雾剂或放置易挥发物品和易燃物品。否则，操作开关或类似装置时产生的火花可能会导致这些物品起火。
- 8. 请勿在机械室内或进风口/出风口处放置任何物品。内部高速旋转的风扇可能会造成人员受伤或产生高温。
- 9. 在柜内放置食物前，请使冷藏柜/冷冻柜通电1小时，并检查温度是否正常。

- 10. 请勿将食物放置在阻挡进风口/出风口的位置。
- 11. 请勿在柜内塞满食物。请在食物与食物之间留出适当空间，以确保空气流通顺畅。
- 12. 请勿放入温热或滚烫的食物。请首先让食物自然冷却，否则会导致柜内温度上升，从而可能会造成柜内存放的其它食物变质或导致冷藏柜/冷冻柜过载。
- 13. 确保所有物品在各个层板上摆放有序。
- 14. 潮湿或新鲜的食物以及海鲜等具有强烈气味的食物应使用保鲜膜包裹或存放在容器中。否则，这些食物可能会变干或使得其它食物串味。
- 15. 含有醋酸或酵母的食物应使用保鲜膜包裹。否则，这些食物可能会加速蒸发器和铜管的腐蚀，进而导致故障。
- 16. 直接食用的食物应放置在合适的容器内，并且避免与柜壁直接接触。
- 17. 请勿使用冷冻柜来冷冻食物。冷冻柜仅用来存放冷冻好的食物。除霜过程中，高品质冰激凌可能会融化，因此不应将其存放在冷冻柜中。
- 18. 柜门刚关闭时难以立即打开，因为此时柜内会产生负压。请等待约30秒。

1. 启动

- 1) 插入本机的电源插头。
- 2) 压缩机和冷凝器风扇马达将在3分钟后启动。

2. 前板

打开和关闭前板:

朝前方拉前板，以便将其从底部的夹持器上松开，然后如图所示将前板向上翻。

要关闭前板，请将底部两侧切实卡入夹持器中。

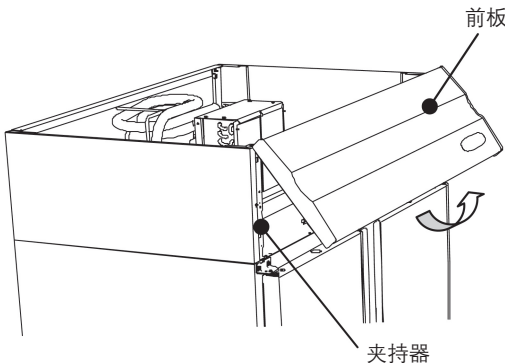


图 12

拆下前板:

将底部两侧从夹持器上松开，然后将其垂直提起。

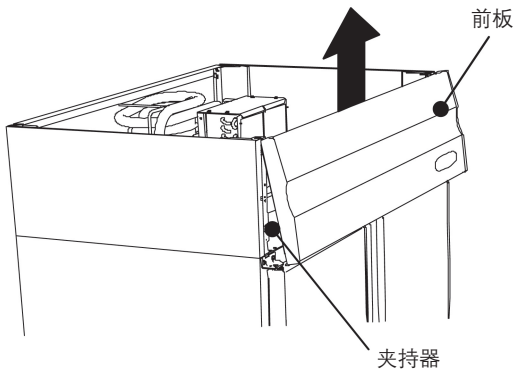


图 13

3. 柜内温度设定

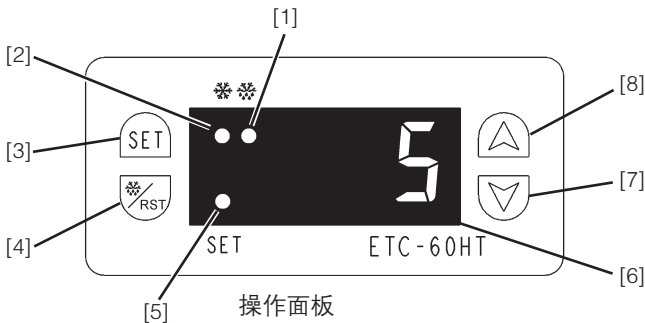
重要

1. 按向下按钮只能降低温度设定值，并不会起到加快制冷速度的作用。

2. 下文中的温度范围仅指可调节范围。柜内的实际温度取决于环境温度和其它条件。

柜内温度在出厂时设为1℃(对于冷藏柜)和-20℃(对于冷冻柜)。如有需要，请按照如下方法重新调节温度。

冷藏柜



- [1] 除霜指示灯

[2] 制冷指示灯

[3] 设定按钮

[4] 除霜/复位按钮

[5] 设定指示灯

[6] 显示屏

[7] 向下按钮

[8] 向上按钮

图 14

1) 打开前板。

2) 按住设定按钮3秒钟:
当密码设为“0”时，设定指示灯将点亮，且显示屏上显示“F01”菜单。此时无密码验证，可直接进入菜单模式以设定参数。
当密码未设为“0”时，设定指示灯将闪烁，且显示屏上显示“00”。按向上或向下按钮，输入密码“55”。按设定按钮，确认密码输入。如果密码正确，则系统进入菜单设定。如果密码不正确，则设定指示灯熄灭，系统回到正常测量和控制状态。

3) 温度设定:
按向上按钮。设定指示灯将闪烁，且显示屏将显示设定温度。
按向下按钮。设定指示灯将闪烁，且显示屏将显示蒸发器的温度。
进入菜单设定后，按向上或向下按钮，选择“F02”菜单(参见注2)。
选择“F02”菜单后，按设定按钮设定参数值。按向上或向下按钮调整参数值，然后再次按设定按钮，回到菜单选择状态。
在设定状态下，按除霜/复位按钮或在30秒钟内不执行任何操作。系统将保存参数，并从参数设定模式退出。

代码	功能	设定范围	默认值	单位
F01	菜单密码	00 ~ 99	55	NC
F02	温度设定	-2 ~ +12	1	℃

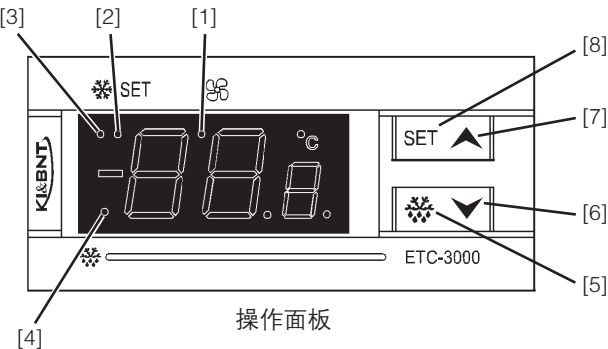
重要

1. 必须将温度设定在-2~12℃的范围内，以防止发生故障。

2. 为避免发生故障，请勿更改除“F02”以外的其它菜单。

3. 显示的柜内温度被调节为与未放置食物时柜内中心处的温度几乎相同。但根据存放的食物、柜门开启频率或测量点不同，显示温度可能会与实际温度有所不同。

冷冻柜



- [1] 风扇指示灯
- [2] 设定指示灯
- [3] 制冷指示灯
- [4] 除霜指示灯
- [5] 除霜按钮
- [6] 向下按钮
- [7] 向上按钮
- [8] 设定按钮

图 15

- 1) 打开前板。
- 2) 按住设定按钮3秒钟:
当显示屏显示“SEt”时，再次按设定按钮以显示设定温度。按向上或向下按钮设定所需的温度，然后按设定按钮。当显示屏显示“SEt”时，再次按住设定按钮3秒钟或者在10秒钟内不执行任何操作。系统将保存设定温度，且显示屏上将显示柜内温度。

重要

1. 必须将温度设定在-7~-23℃的范围内，以防止发生故障。

2. 为避免发生故障，请勿更改除“SEt”以外的其它菜单。

3. 显示的柜内温度被调节为与未放置食物时柜内中心处的温度几乎相同。但根据存放的食物、柜门开启频率或测量点不同，这一温度可能会与实际温度有所不同。

冷藏柜/冷冻柜(通用说明)

当柜内温度下降至设定温度时，压缩机将停止运行。而当柜内温度上升至高于设定温度4℃时，压缩机将启动。因此，柜内的平均温度将保持在高于设定温度2℃左右。

- 设定温度(压缩机关闭温度)
- 停止运转除霜(HRE系列): -2 ~ +12℃
 - 加热器除霜(HFE系列): -7 ~ -23℃

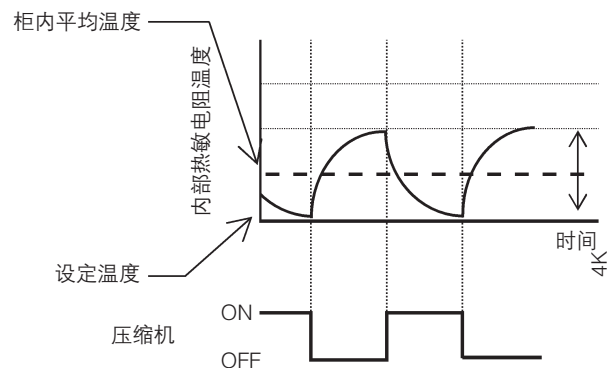


图 16

4. 除霜方式

自动除霜过程

在制冷过程启动后，冷藏柜/冷冻柜将自动对蒸发器除霜3小时(对于冷藏柜)或6小时(对于冷冻柜)。除霜过程启动时，操作面板上的除霜指示灯将点亮。

手动除霜过程

若要启动手动除霜过程，请按住除霜/复位按钮(对于冷藏柜)或除霜按钮(对于冷冻柜)3秒钟。除霜过程启动时，操作面板上的除霜指示灯将点亮。

5. 指示灯

冷藏柜

指示灯	符号	状态	功能
设定	SET	点亮	参数设定
		熄灭	测量和控制状态
		闪烁	参数检查、密码输入
制冷		点亮	制冷
		熄灭	停止制冷
		闪烁	延迟制冷
除霜		点亮	除霜
		熄灭	停止除霜

冷冻柜

指示灯	符号	状态	功能
制冷		点亮	压缩机运行
		熄灭	停止压缩机
		闪烁	延迟压缩机的运行
		快速闪烁	手动制冷
除霜		点亮	除霜
		熄灭	停止除霜
		闪烁	除霜排水
		快速闪烁	手动除霜
风扇		点亮	风扇运行
		熄灭	风扇停止
		闪烁	延迟风扇的运行
设定	SET	点亮	设定模式
		熄灭	普通模式
摄氏度	C	点亮	普通模式下的显示摄氏度
		熄灭	普通模式下的显示华氏度

6. 关机

- 1) 关机前，请将存放的食物移至另一台冷藏柜/冷冻柜。
- 2) 按下本机的电源插头或断开主电源。
- 3) 打算长时间不使用本机时，请清洁柜内部和柜门衬垫，并将其彻底晾干，然后将本机存放在干燥场所。

III. 保养

重要

- 1. 在进行任何清洁或保养作业之前，请拔下本机的电源插头。
- 2. 请勿触摸或打湿机械室内的零件，否则会导致故障或停机。
- 3. 请勿将塑料零件放入温度超过40℃的水中或洗碗机中清洗，以免损坏零件。

1. 内部、外部、层板

- * 为保持使用卫生，应每周清洁冷藏柜的内部和外部至少一次。
- * 将软布浸泡在由冷水或温水加适量中性清洁剂混合而成的溶液中，然后取出软布并拧干，再使用该软布清洁本机内部和外部。请勿用喷水器清洁机械室。
- * 使用中性清洁剂以外的化学试剂可能会导致内表面和外表面损坏。
- * 任何洗涤剂残留都将损伤金属或塑料表面，因此请使用蘸有温水的软布将其擦除。
- * 请勿使用下列物品，以免其损坏喷漆或塑料表面：抛光粉、酒精、稀释剂、挥发油、酸性或碱性洗涤剂、热水、石油精、肥皂粉、金属打磨工具或刷子等。尤其不可使用专用于清除通风设备或微波炉上油脂的洗涤剂。



图 17

注：上述以外的洗剂也有可能会损伤涂装保护面及塑料表面。
出现异常时请立即停止使用。

- * 柜门衬垫及其接触表面很容易变脏，请彻底清洁这些部位。否则，食物残渣会加速这些部位的老化。
- * 用抹布擦去柜内的积水。

2. 空气过滤网

重要

为防止空气过滤网变形，请勿使用40℃以上的热水清洗空气过滤网。

该空气过滤网可以滤除空气中的脏物或灰尘，以防止冷凝器堵塞。如果过滤网堵塞，冷藏柜/冷冻柜的制冷性能将下降。每月应至少检查过滤网两次。如果过滤网堵塞，请使用温水和中性清洁剂进行清洗。请勿在空气过滤网已拆下的情况下使用本机，否则会导致冷凝器堵塞，进而造成本机故障。

- 1) 打开前板并拆下空气过滤网。请勿直接触摸冷凝器的翅片，以免受伤。

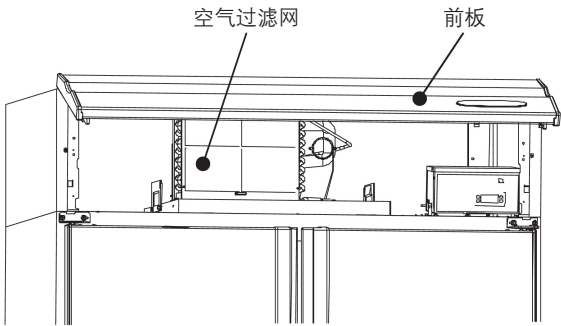


图 18

- 2) 使用含有适量中性清洁剂的冷水或温水小心地清洗空气过滤网。冲洗并彻底晾干空气过滤网。
- 3) 若要重新安装空气过滤网，请将其安装到冷凝器顶部的导板上，再插入制冷机组基座的插槽中。

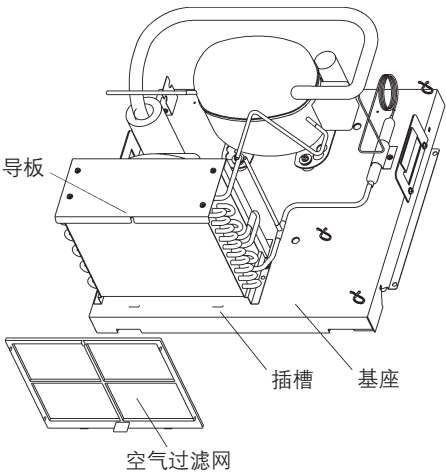


图 19

3. 报修前

重要

1. 如果操作面板上的显示屏显示故障代码或本机存在故障迹象，请根据以下说明查找可能的故障原因。如果故障仍然存在，请立即联系授权的星崎维修公司。

2. 联系维修公司时，请向对方说明型号、序列号、安装日期(参见保修卡)以及故障状况。

3. 请勿尝试自行维修本机。

[a] 显示故障代码的故障

冷藏柜

代码	可能的原因	操作和补救措施
E1	柜内传感器故障	压缩机停机。按任何按钮停止报警声。当故障诊断结束时，系统将重新计算压缩机延迟时间。请立即联系星崎授权的维修公司。
E2	蒸发器故障	除霜终止温度无效。按任何按钮停止报警声。请立即联系星崎授权的维修公司。

冷冻柜

代码	可能的原因	操作和补救措施
HHH	环境温度过高	压缩机以运行 45 分钟然后停止 15 分钟的方式循环工作。检查环境温度。
LLL	环境温度过低	若问题无法解决，请立即联系星崎授权的维修公司。

* “dF” 代码并非出错代码，而是表示本机正处于除霜过程中。

[b] 不显示故障代码的故障

- 1) 本机无法运转:

(1)未插电源插头。

(2)停电。

(3)主电源断开。

2) 制冷性能不佳:

(1)环境温度过高(43℃以上)。

(2)频繁打开柜门。

(3)柜内温度设定过高。

(4)食物放入过多。

(5)空气过滤网脏污。

(6)柜门未关闭。

- 3) 柜门附近出现冷凝水:

(1)环境湿度过高。

(2)柜门未关紧。

4) 噪声:

(1)压缩机或冷凝器风扇的正常运转声。

5) 机械室内部结霜:

(1)环境湿度过高。


(2)频繁打开柜门。

(3)食物放入过多，超出了机器的负荷。

4. 废弃处理

对冷藏柜/冷冻柜进行废弃处理时，请联系授权的星崎维修公司或专门的废品处理公司。

重要



用于机体的隔热材料发泡剂含有易燃气体环戊烷。请记住这一点，正确处置冷藏柜/冷冻柜。

5. 保修

星崎向拥有者/用户保证，星崎品牌的所有产品在产品“保修期”内不存在材料和/或工艺缺陷。产品保修在自产品安装之日起一年内有效。星崎在此保修条款下承担有限责任，但日常维护、清洁、必需的保养和/或因误用以及未根据星崎的准则安装而导致的修理除外。

保修范围内的维修应由授权的星崎经销商或维修机构负责，且应使用纯正的星崎零件。

若要获取有关保修和授权维修机构的详细信息，请联系经销商/供货商或最近的星崎维修办事处。

生产许可证号：
XK06-015-00212

制品标准番号：
GB 4706.1
SB 10424
GB/T 21001.2 (玻璃门机型)
GB/T 21001.3 (玻璃门机型)
JB/T 7244 (不锈钢门机型)



Keep Dry

WARNING

Do not wet this product or use it in potentially wet conditions. This may cause electric leakage, resulting in electric shock or fire.

IMPORTANT

1. This is a commercial refrigerator/freezer, and should be destined only to be used for the purpose for which it has been expressly designed. Any other use should be considered improper and therefore dangerous. The manufacturer will not be held liable or responsible for any damage caused by improper, incorrect and unreasonable use.
2. This appliance is not intended for use 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 concerning use of the appliance by a person responsible for their safety. Young children should be supervised to ensure that they do not play with the appliance.

I. INSTALLATION INSTRUCTIONS

1. CONSTRUCTION (HRE-127MA-CHD)

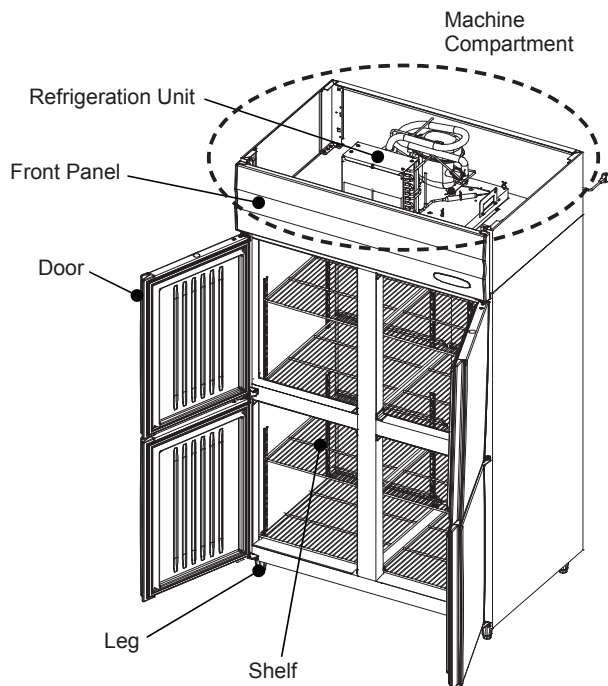


Fig. 1

2. ACCESSORIES

Width	700mm	1200/1400mm	1800mm
a) Shelf:	4 [4]	8 [8]	12 [12]
b) Shelf clip:	16 [16]	32 [32]	48 [48]
c) Shelf holder:	4 [0]	8 [0]	12 [0]

- Note: 1. Numbers in parentheses are for models without shelf holders.
2. Customized products may have different numbers and specifications of accessories.

3. LOCATION

IMPORTANT

This refrigerator/freezer is not intended for outdoor use. Normal operating ambient temperature should be within 5°C to 43°C.

For best operating results:

- * The refrigerator/freezer should not be located next to ovens, grills or other high heat producing equipment.
- * The location should provide a firm foundation for the equipment.
- * Avoid a site where dripping is not allowed. Especially, a side-by-side or back-to-back installation (possibly with other manufacturer's unit) may cause condensation between the two units, resulting in dripping onto the floor.
- * Do not expose the unit to direct sunlight or higher temperatures.
- * Allow at least 100 cm clearance at the front of the unit for smooth door operation. Also allow at least 30 cm clearance from the ceiling to the top of the unit for proper air circulation.

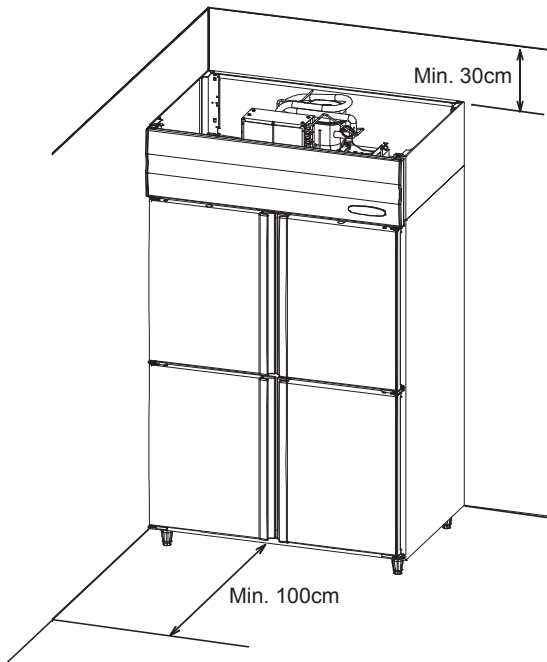
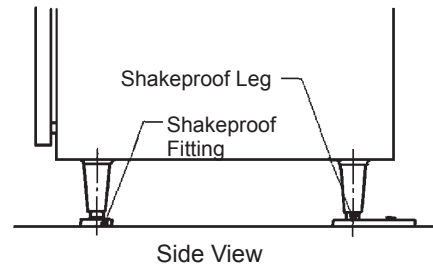
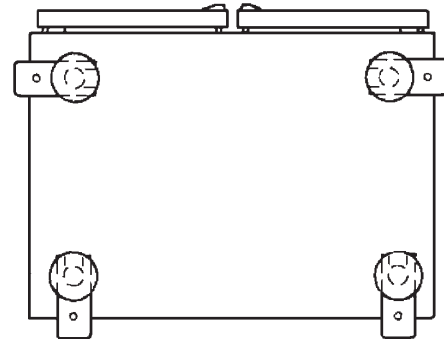


Fig. 2



Side View



Bottom View

Fig. 3

* Protect the unit from tipping over by fixing the four legs with the following tip-resistant kit (optional):

[Tip-resistant kit]

Adjustable leg (4Y2042-01, optional)	4
Shakeproof leg (454440-01, optional)	4
Shakeproof fitting (454441-01, optional)	4
Anchor bolt M10 (not provided)	4

[Installation example]

- 1) Replace the casters/adjustable legs with the optional adjustable legs.
- 2) Replace the adjustable ends of the legs with the shakeproof legs.
- 3) Fix the two rear shakeproof fittings to the floor.
- 4) Mount the refrigerator/freezer on the fixed shakeproof fittings.
- 5) Fix the front shakeproof fittings.

* Locate and orient the fittings to optimize the function of the anchor bolts.

* The shakeproof legs will raise the height by about 5 mm.

4. SET UP

IMPORTANT

1. Do not tilt the unit more than 45° when mounting the legs.
2. Carry the unit by holding its bottom.

- 1) Cut the vinyl shipping tape and remove the carton.
- 2) Take out the accessory shelves, shelf clips and legs. Attach the four shelf clips horizontally to the shelf posts. Place the shelf on the shelf clips.
- 3) Remove the two bolts from the bottom of the unit.

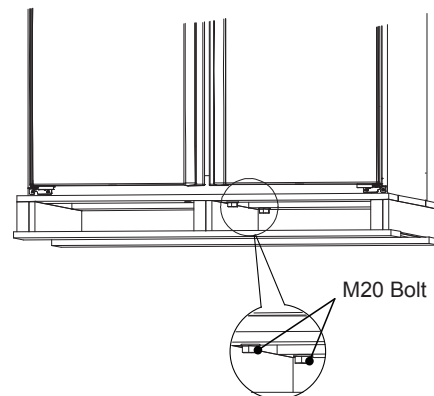


Fig. 4

- 4) Turn the unit 90 degrees on the pallet, tilt the unit sideways, and screw in the two adjustable legs.

Note: Keep the adjusters 2 cm longer to make it easy to pull out the pallet.

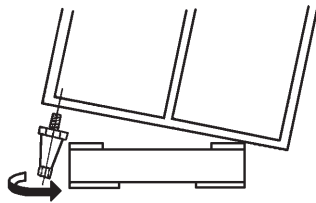


Fig. 5

- 5) Tilt the unit in the opposite direction, and screw in the other two legs.
- 6) Slide out the pallet from under the unit.
- 7) For the 180 type (1800 mm wide) models only, turn the unit sideways again, and screw in the two legs at the center.
- 8) Level the refrigerator/freezer in both the left-to-right and the front-to-rear directions. To adjust the height of the unit, turn the adjusters of the adjustable legs.

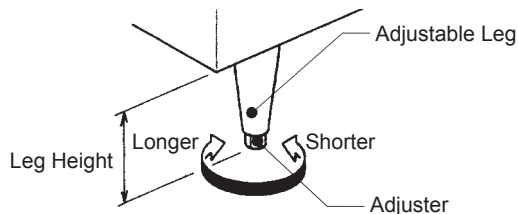


Fig. 6

CAUTION

The height of the adjustable legs must be within 9 - 12 cm (or 15 - 18 cm for some models). If extended too much, the legs may become weak or the adjusters can come off, causing unexpected injuries.

- 9) Remove the protective plastic film from the doors and front panel.

Note: Some customized models are provided with casters.

5. SHELF AND RAIL

[a] SHELF AND SHELF CLIP (standard)

- * The shelf is adjustable in 2.5 cm increments. Adjust the shelf clips according to the height of stored items.
- * To attach the shelf clip, insert the upper tab into an adjust hole in the shelf post to hook the shelf clip, and push the lower tab into another adjust hole until it locks in place. To detach the shelf clip, reverse the above procedure.

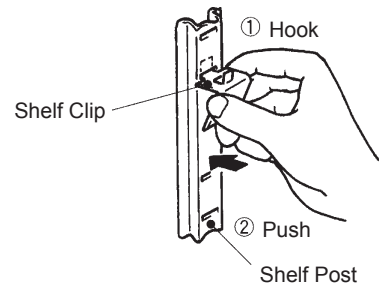


Fig. 7

CAUTION

Attach the shelf clips properly to make the shelf level.

- * To lay the shelf at the bottom of the cabinet, attach two shelf holders each to the left and right frames as shown below.

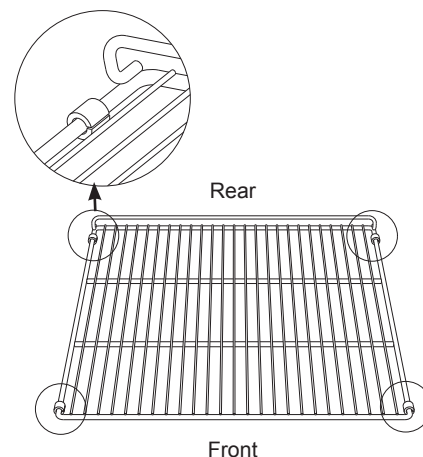


Fig. 8

IMPORTANT

Do not put anything at the bottom of the cabinet to prevent damage or deformation to the cabinet bottom, resulting in corrosion.

[b] RAIL (customized)

- * To attach the rail, (1) push the rail hook backwards to fit into the square hole in the rear shelf post, and (2) push the rail hook down to fit into the square hole in the front shelf post. To detach the rail, reverse the above procedure. See Fig. 9.

CAUTION

Attach the rail properly to make it level.

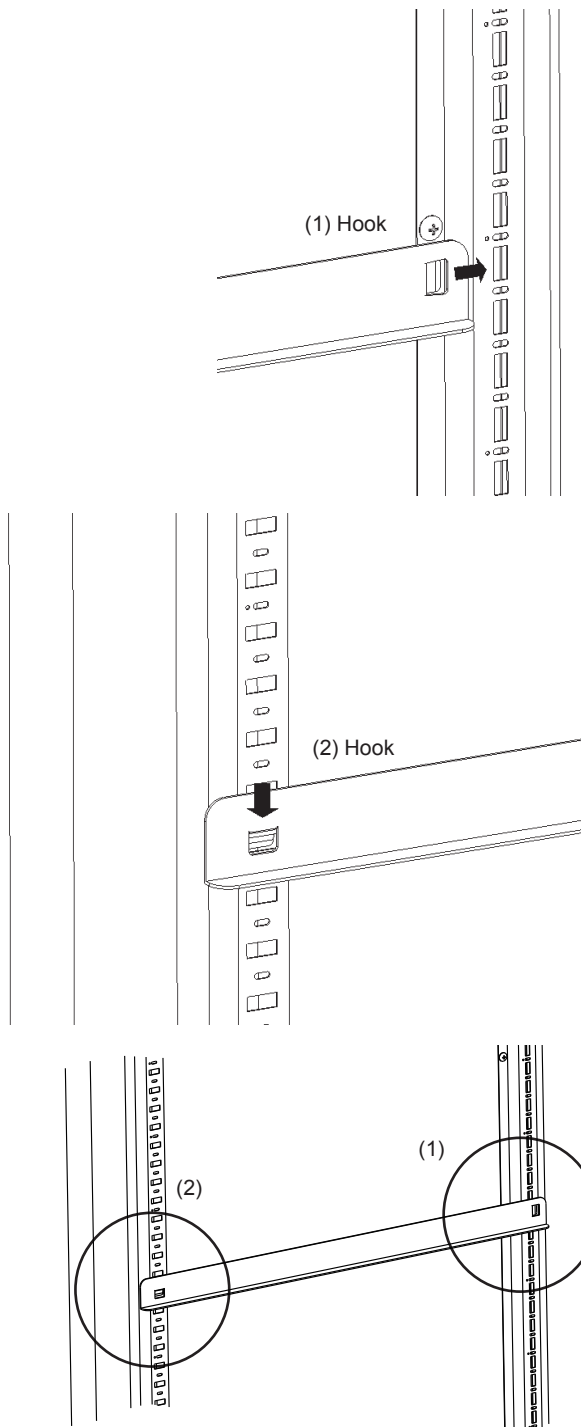


Fig. 9

[c] HANGER (customized)

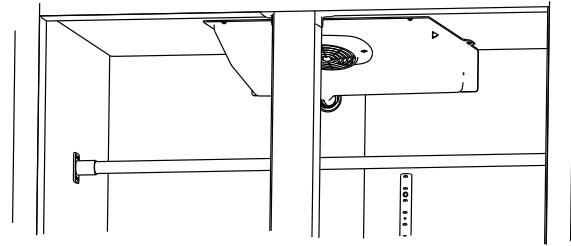


Fig. 10

6. ELECTRICAL CONNECTIONS

IMPORTANT

This refrigerator/freezer is provided with no power switch or earth leakage circuit breaker, but with overcurrent protection only. Install an earth leakage circuit breaker with overload protection rated at least 15A on the main power supply.

- * This refrigerator/freezer must be plugged into the separated power receptacle which is readily accessible and has enough capacity. The maximum allowable voltage variation should not exceed ± 10 percent of the nameplate rating. See the nameplate.
- * If the supply cord and the plug should need to be replaced, it should only be done by a qualified service engineer to avoid any danger.

7. DRAIN CONNECTIONS

CAUTION

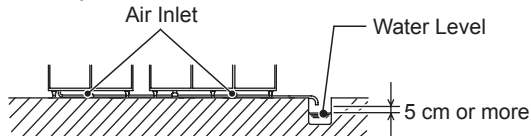
Be sure to connect the drain hose properly. Otherwise water leaks from the drain hose may damage the surroundings (property).

IMPORTANT

1. Drain line shall be as short and straight as possible. The drain hose shall have an adequate pitch and fall so that no part is higher than the drain outlet.
2. To prevent a backflow, do not connect the drain hose directly with the sewer system. An air gap of a minimum of 5 cm should be between the end of the drain hose and the water level of drainage.



3. When installing more than two units, do not interconnect their drain hoses. If the interconnection is necessary, provide an air inlet per unit.



- * The drain outlet is at the bottom of the body. Use the accessory to connect the drain hose.

- 1) Insert the 18 mm diameter end of flexible hose into the defrost water drain outlet, and fix the flexible hose with the accessory drain hose band.

- 2) Attach the other end (26 mm outer diameter) of the flexible hose to the drainage.

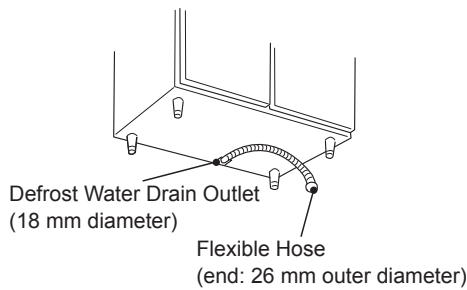


Fig. 11

- * The drain hose may not be provided for some models. If necessary, connect the optional drain hose assembly (471190A02) to the 18 mm outer diameter drain outlet located on the bottom rear of the unit.
- * The drain outlet is not provided for forced drain water evaporation model (customized). Drain water is evaporated inside the rear side of the body.

II. OPERATING INSTRUCTIONS

IMPORTANT

1. Be careful not to wet the machine compartment. This might cause failure or electric shock hazard.
2. To prevent electric shock, do not touch the attachment plug with wet hands.
3. Do not store any volatile or flammable substances, such as benzine, ether, adhesives and LPG, in the unit.
4. This refrigerator/freezer is designed only for temporary storage of foods. Use for any other purposes (e.g. storage of chemicals or medical supplies such as vaccine and serum) could cause deterioration of stored items.
5. Do not throw anything onto the shelves or load more than 60 kg on each of them. They may fall off and cause injury.
6. Do not store bottles or cans near the air outlet. They may freeze up and break, causing a risk of injury.
7. Do not use combustible spray or place volatile and flammable substances near the unit. They could catch fire from a spark of a switch or the like.
8. Do not put anything into the machine compartment or the air inlet/outlet. The fan rotating rapidly inside may cause injury or heat.
9. Energise the refrigerator/freezer for 1 hour and check for proper temperature before putting foods in the cabinet.
10. Do not block the air inlet/outlet with foods.
11. Do not pack the cabinet with foods. Allow some space between them to ensure good air flow.
12. Do not put in warm or hot foods. Let them cool first, or they will raise the cabinet temperature and could deteriorate other foods in the cabinet or overload the refrigerator/freezer.
13. Make sure all items are snug on each shelf.

14. Moist or fresh foods and those with a strong smell like seafood should be wrapped up in a plastic film or packed in a container. Otherwise the foods may dry up or give their smells to other foods.
15. Foods containing acetic acid or yeast should be wrapped up in a plastic film. Otherwise they may accelerate corrosion of the evaporator and copper tubes, resulting in failure.
16. Foods intended for direct human consumption should be stored on the shelf in a proper container and protected from direct contact with the cabinet walls.
17. Do not use the freezer to freeze foods. It is designed only to store frozen foods. High quality ice cream may melt during defrost cycle and should not be stored in the freezer.
18. The doors may become difficult to open just after closed because of the negative pressure created inside the cabinet. Wait for about 30 seconds.

1. START UP

- 1) Plug in the unit.
- 2) The compressor and condenser fan motor will start in 3 minutes.

2. FRONT PANEL

To open and close the front panel:

Pull each side of the front panel toward you to release it from the grip on each side of the bottom, and swing up the front panel as shown. To close the front panel, fit both sides of the bottom securely in the grips.

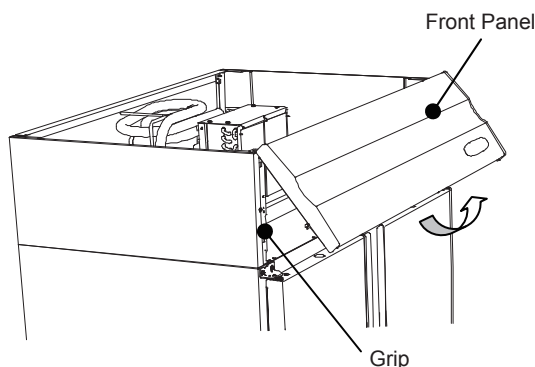


Fig. 12

To remove the front panel:

Release both sides of the bottom from the grips, and lift it off vertically.

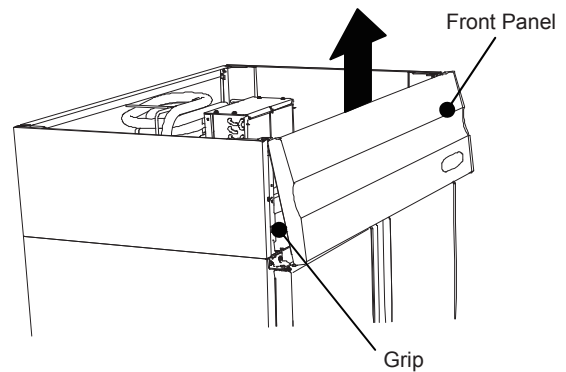


Fig. 13

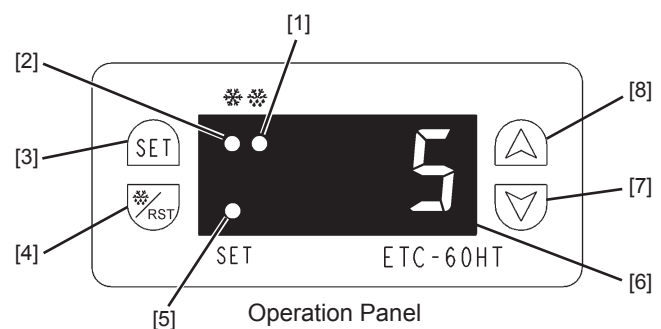
3. CABINET TEMPERATURE SETTING

IMPORTANT

1. Pressing the down key will not speed up refrigeration, but will only lower the temperature setting.
2. The temperature range given below is only the adjustable range. The actual cabinet temperature depends on the ambient temperature and other conditions.

The cabinet temperature is factory-adjusted to 1°C for the refrigerator and -20°C for the freezer. If necessary, readjust the temperature as follows.

Refrigerator



- [1] Defrost Indicator Light
- [2] Refrigeration Indicator Light
- [3] Set Key
- [4] Defrost/Reset Key
- [5] Set Indicator Light
- [6] Screen
- [7] Down Key
- [8] Up Key

Fig. 14

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1) Open the front panel.

2) Press the set key for 3 seconds:

When the keypad password is set as "0", the set indicator light comes on and the screen displays the "F01" menu. There is no password authentication, so directly enter the menu mode to set parameter.

When the keypad password is not set as "0", the set indicator light flashes and the screen displays "00". Press the up or down key to input the password "55". Press the set key to confirm the password input. Then, the system enters the menu setting item if the password is correct. If the password is incorrect, the set indicator light goes off and the system goes back to the normal measuring and controlling status.

3) Temperature setting:

Press the up key. The set indicator light flashes and the screen displays the set temperature.

Press the down key. The set indicator light flashes and the screen displays the temperature of the evaporator sensor.

After entering the menu setting items, press the up or down key to choose the "F02" menu (see note 2).

After choosing the "F02" menu, press the set key to set parameter value. Press the up or down key to adjust parameter value, and then repress the set key to go back to the menu choosing status.

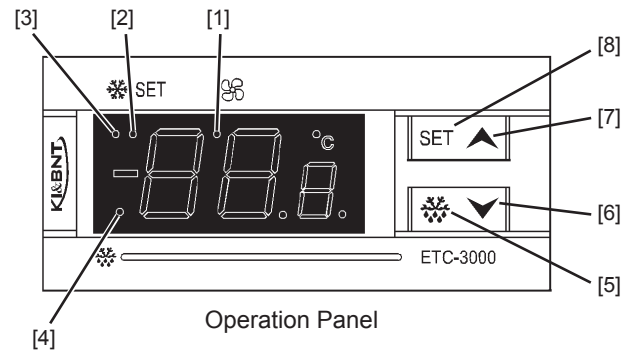
Under the setting status, press the defrost/reset key or perform no operation for 30 seconds. The system will save the parameters and exit from the parameter setting mode.

Code	Function	Set Range	Default	Unit
F01	Menu password	00 to 99	55	NC
F02	Temperature setting	-2 to +12	1	°C

IMPORTANT

1. The temperature setting must be between -2 and 12°C to prevent possible failure.
2. To avoid the risk of failure, do not make changes to other menus than "F02".
3. The displayed cabinet temperature is adjusted to be almost equal to the temperature at the center of the cabinet without foods. But it can be different from the actual temperature depending on arrangement of stored foods, frequency of door opening or measuring points.

Freezer



- [1] Fan Indicator Light
- [2] Set Indicator Light
- [3] Refrigeration Indicator Light
- [4] Defrost Indicator Light
- [5] Defrost Key
- [6] Down Key
- [7] Up Key
- [8] Set Key

Fig. 15

1) Open the front panel.

2) Press the set key for 3 seconds:

When the screen displays "SET", press the set key again to indicate the set temperature. Press the up or down key to set the desired temperature and press the set key. When the screen displays "SET", press the set key again for 3 seconds or perform no operation for 10 seconds. The system will save the set temperature and indicate the cabinet temperature on the screen.

IMPORTANT

1. The temperature setting must be between -7 and -23°C to prevent possible failure.
2. To avoid the risk of failure, do not make changes to other menus than "SET".
3. The displayed cabinet temperature is adjusted to be almost equal to the temperature at the center of the cabinet without foods. But it can be different from the actual temperature depending on arrangement of stored foods, frequency of door opening or measuring points.

Refrigerator / Freezer (Common)

The compressor stops when the cabinet temperature reaches down to the set temperature, and starts when the cabinet temperature rises to the set temperature + 4°C. Accordingly, the average cabinet temperature will be around the set temperature + 2°C.

Set temperature (compressor off temperature)
 Off-cycle defrost (HRE series): -2 to +12°C
 Heater defrost (HFE series): -7 to -23°C

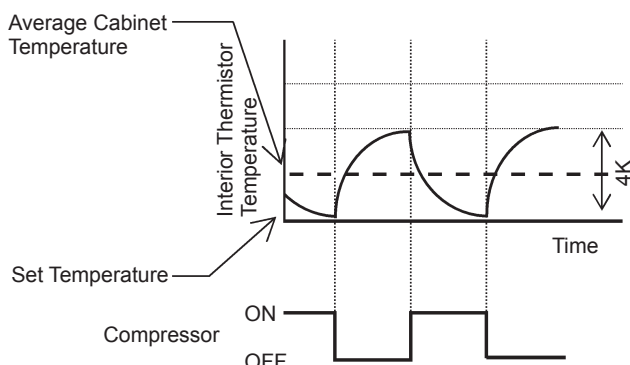


Fig. 16

4. DEFROST

Automatic defrost cycle

The refrigerator/freezer automatically defrosts the evaporator 3 hours (refrigerator) or 6 hours (freezer) after the refrigeration starts. The defrost indicator light on the operation panel comes on when the defrost cycle starts.

Manual defrost cycle

To start the manual defrost cycle, press the defrost/rest key (refrigerator) or defrost key (freezer) for 3 seconds. The defrost indicator light on the operation panel comes on when the defrost cycle starts.

5. INDICATOR LIGHTS

Refrigerator

Indicator Light	Symbol	Status	Function
Set	SET	On	Parameter setting
		Off	Measuring and controlling status
		Flash	Parameter check, password input
Refrigeration		On	Refrigerating
		Off	Refrigeration stopped
		Flash	Refrigeration delayed
Defrost		On	Defrosting
		Off	Defrost stopped

Freezer

Indicator Light	Symbol	Status	Function
Refrigeration		On	Compressor running
		Off	Compressor stopped
		Flash	Compressor delayed
		Quick flash	Manual refrigeration
Defrost		On	Defrosting
		Off	Defrost stopped
		Flash	Defrost drain
		Quick flash	Manual defrost
Fan		On	Fan running
		Off	Fan stopped
		Flash	Fan delayed
Set	SET	On	Setting mode
		Off	Normal mode
Celsius	C	On	Celsius display under normal mode
		Off	Fahrenheit display under normal mode

6. SHUT DOWN

- 1) Before shutting down the unit, move the stored foods into another refrigerator/freezer.
- 2) Unplug the unit or disconnect the main power supply.
- 3) When preparing the unit for long storage, clean the cabinet interior and door gaskets, dry them thoroughly and store the unit in a dry place.

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III. MAINTENANCE

IMPORTANT

1. Before carrying out any cleaning or maintenance operations, unplug the unit.
2. Do not touch or wet the machine compartment parts. This could result in failure or breakdown.
3. To prevent possible damage, do not clean the plastic parts with water above 40°C or in a dishwasher.

1. INTERIOR, EXTERIOR, SHELF

- * Clean the interior and exterior at least once a week for sanitary use.
- * Clean off the interior and exterior with a soft cloth soaked in cold or warm water containing the proper amount of neutral cleaner and wrung dry. Do not use a water jet to clean the machine compartment.
- * Chemical agents other than neutral cleaner might cause damage to the interior and exterior surfaces.
- * Any remaining detergent will damage metal or plastic surfaces. Use a soft cloth dampened with warm water to wipe it off.
- * Do not use the following items. They could damage painted or plastic surfaces:

Polishing powder, alcohol, thinner, benzine, acidic or alkaline detergent, hot water, petroleum, soap powder, metal scourer or brush, etc.
Especially detergent to clean grease on ventilator or microwave.

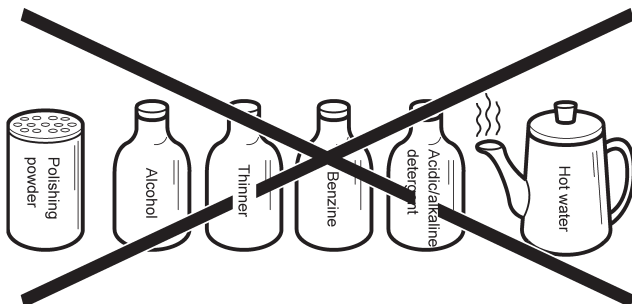


Fig. 17

Note: Some solutions other than the above may also damage painted or plastic surfaces. Immediately stop using such solutions if they cause any problems.

- * The door gasket and its contact surface get soiled easily. Clean every surface of these parts thoroughly. Remnants of food will accelerate aging.
- * Use a cloth to wipe off any water staying inside the cabinet.

2. AIR FILTER

IMPORTANT

To prevent deformation, do not wash the air filter with hot water above 40°C.

Plastic mesh air filters remove dirt or dust from the air, and keep the condenser from getting clogged. If the filters get clogged, the refrigerator/freezer's performance will be reduced. Check the filters at least twice a month. When clogged, use warm water and a neutral cleaner to wash the filters. Do not operate the unit with the air filters removed, or the condenser will get clogged, resulting in failure.

- 1) Open the front panel and remove the air filter. To prevent injury, do not touch the condenser fins directly.

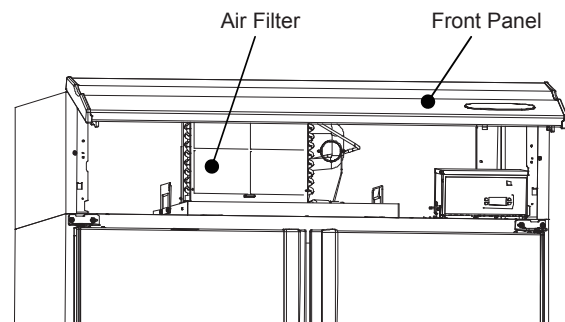


Fig. 18

- 2) Wash the air filter carefully with cold or warm water containing the proper amount of neutral cleaner. Rinse and dry the air filter thoroughly.
- 3) To refit the air filter, attach it to the guide at the top of the condenser and put the tabs into the slots in the refrigeration unit base.

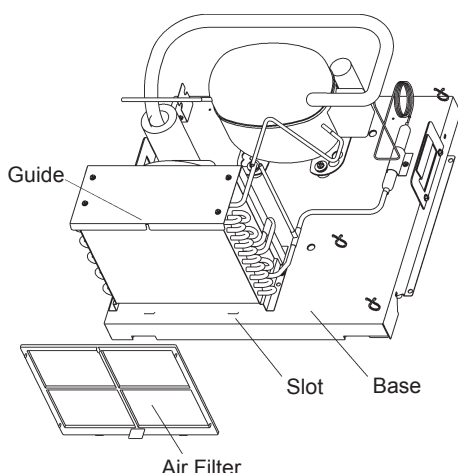


Fig. 19

3. BEFORE CALLING A SERVICE AGENT

IMPORTANT

1. If the screen on the operation panel indicates an error code or something seems wrong with the unit, check for possible causes according to the following instructions. If the problem still exists, immediately contact an authorized Hoshizaki service company.
2. When contacting a service company, let them know the model name, serial number, date of installation (see warranty card) and state of the trouble.
3. Do not attempt to repair the unit yourself.

[a] TROUBLES WITH ERROR CODE INDICATION

Refrigerator

Code	Possible Cause	Operation and Remedy
E1	Cabinet sensor error	Compressor shuts down. Press any key to stop beep. When troubleshooting is over, system recalculates compressor delay time. Immediately contact an authorized Hoshizaki service company.
E2	Evaporator error	Defrost termination temperature is invalid. Press any key to stop beep. Immediately contact an authorized Hoshizaki service company.

Freezer

Code	Possible Cause	Operation and Remedy
HHH	Ambient temp too high	Compressor cycles on for 45 minutes and off for 15 minutes. Check ambient temperature. If problem cannot be resolved, immediately contact an authorized Hoshizaki service company.
LLL	Ambient temp too low	

* The code "dF" is not an error code but indicates the unit is in defrost cycle.

[b] TROUBLES WITHOUT ERROR CODE INDICATION

- 1) Unit fails to operate:
 - (1) Unplugged.
 - (2) Power failure.
 - (3) Main power supply disconnected.
- 2) Poor cooling performance:
 - (1) Ambient temperature too high (above 43°C).
 - (2) Door(s) opened too often.
 - (3) Cabinet temperature setting too high.
 - (4) Too packed with foods.
 - (5) Air filter not clean.
 - (6) Door(s) left open.
- 3) Condensation around door(s):
 - (1) Ambient humidity too high.
 - (2) Door(s) not closed tightly.
- 4) Noise:
 - (1) Normal operating sounds of compressor or condenser fan.
- 5) Frosting inside compartment:
 - (1) Ambient humidity too high.
 - (2) Door(s) opened too often.
 - (3) Too packed with foods beyond load line.

4. DISPOSAL

When disposing of the refrigerator/freezer, contact an authorized Hoshizaki service company or a specialized waste disposal company.

IMPORTANT



The insulation foaming agent used for the unit body contains flammable gas cyclopentane. With this in mind, dispose of the refrigerator/freezer properly.

5. WARRANTY

Hoshizaki warrants to the original owner/user that all Hoshizaki branded products shall be free of defects in material and/or workmanship for the duration of the “warranty period”. The warranty shall be effective for one year from the date of installation.

Hoshizaki's liability under the terms of the warranty are limited and shall exclude routine servicing, cleaning, essential maintenance and/or repairs occasioned by misuse and installations not in accordance with Hoshizaki guidelines.

Warranty repairs should be completed by an approved Hoshizaki dealer or service agency using genuine Hoshizaki components.

To obtain full details of your warranty and approved service agency, please contact your dealer/supplier, or the nearest Hoshizaki Service office.

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