



平台式冷藏柜 / 冷冻柜
UNDERCOUNTER REFRIGERATOR/FREEZER

使用说明书 INSTRUCTION MANUAL



RTC-120MNA

RTC-90MNA
RTC-120MNA
RTC-150MNA
RTC-180MNA
RTC-90MDA
RTC-120MDA
RTC-150MDA
RTC-180MDA
FTC-90MNA
FTC-120MNA
FTC-150MNA
FTC-180MNA
FTC-90MDA
FTC-120MDA
FTC-150MDA
FTC-180MDA

- 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.

L1T069305 (111714)


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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。

- 注：
1. 将提供的四个支脚安装到位于机器底部的安装孔中。
 2. RTC/FTC-90M*A需要将5个脚全部安装上去。

2. 附件

| 宽度 | 900mm | 1200/1500mm | 1800mm |
|----------|-------|-------------|--------|
| a) 层板： | 2[2] | 4[4] | 6[6] |
| b) 层板托： | 8[8] | 16[16] | 24[24] |
| c) 层板支架： | 5[0] | 10[0] | 15[0] |
| d) 支脚： | 5[5] | 4[4] | 4[4] |

- 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°C至38°C之间。

I. 安装说明

1. 构造

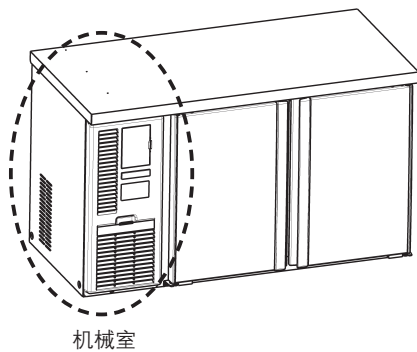


图 1

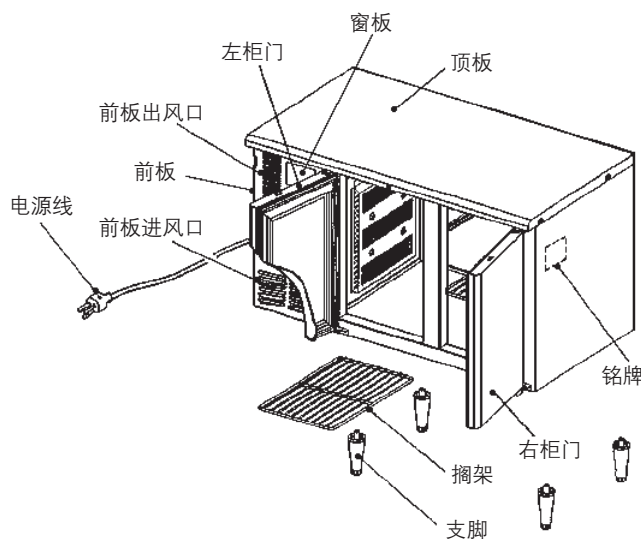


图 2

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不允许滴水的场所。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。
- * 在本机前板的进风口/出风口与墙壁或其它设备之间至少应留出50cm间隙，以确保空气流通顺畅。本机前方应留出足够空间，以确保顺畅调节柜内温度。如果环境温度可能会超过38°C，则应使机械室一侧离墙壁至少10cm，以防止过载和损坏制冷回路。

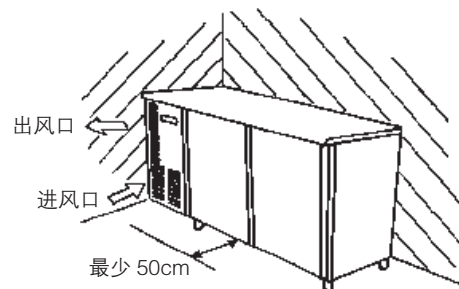


图 3

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) 剪断运输绑带，然后拆下纸板箱。

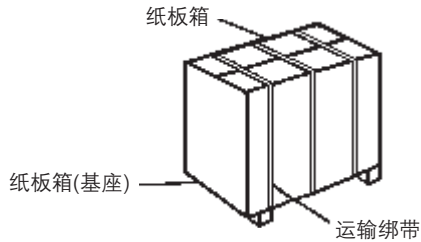


图 4

- 2) 取出附属支脚。

- 3) 将本机向后倾斜，以安装前支脚(两人作业)。

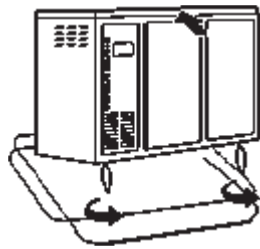


图 5

- 4) 以相同的方法安装后支脚。

- 5) 运行本机前，请去除所有的运输纸板箱、包装物、胶带以及外壳、内胆和顶板上的塑料保护膜。请小心不要损坏外板。

- 6) 首先将本机摆放到事先选好的位置。

- 7) 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。

- 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。

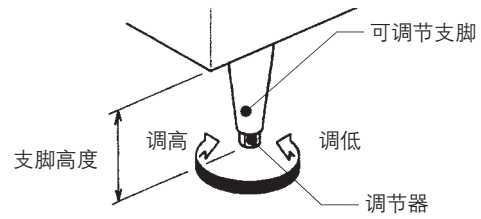


图 6

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。

5. 层板、层板托和层板支架

* 层板高度可以2.5cm为高度单位进行调节。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。

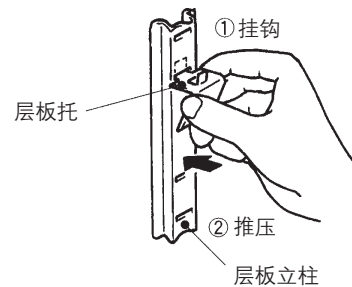


图 7

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，并在中间框架上安装一个层板支架。

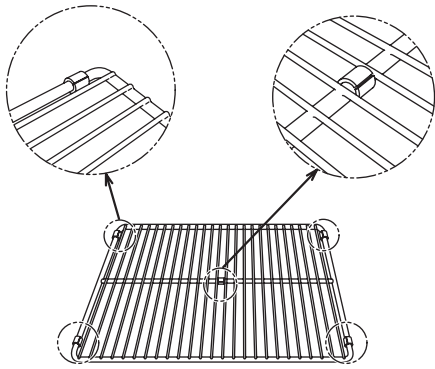


图 8

重要

当使用柜体底部的层板时，请务必使用层板支架，以防止损坏柜体底部，从而导致腐蚀。

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(保险丝)。请在主电源上安装一个额定电流不小于10A的开关。

* 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

- 1) 将带存水弯的挠性软管连接至位于机器底部的排水口。
- 2) 使用附带的电缆扎带，将存水弯牢牢固定至机器底部的安装孔上。

* 某些机型可能不提供挠性软管。如有需要，请订购附件 (3S1332A02)。

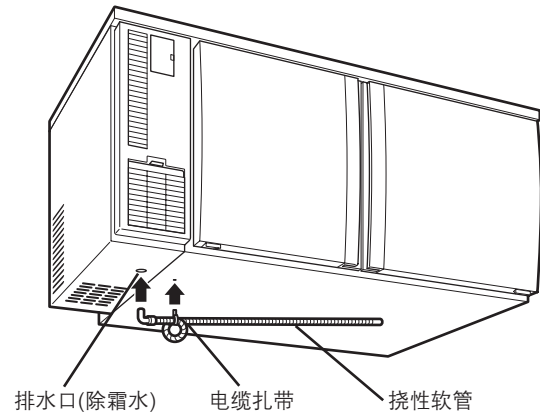
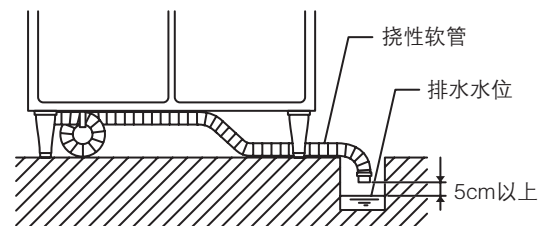


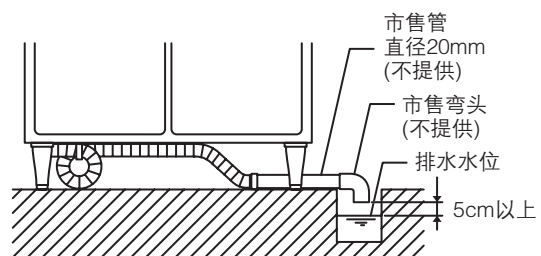
图 9

重要

1. 为防止断开，请务必使用电缆扎带，将挠性软管固定到位。
2. 排水管路应尽量短而直，向下倾斜并且置于排水出口的下方。
3. 为防止废水回流，请勿将挠性软管直连至下水道系统。在挠性软管的末端和下水道排水水位之间至少应留出5cm的空隙。



4. 如果挠性软管过短而不能伸到下水道处，请将一根市售管连接到挠性软管上。请务必在排水管的末端和下水道排水水位之间至少留出5cm的空隙。



5. 排水连接时，应防止周围空气在蒸发器上结成过多的霜，进而造成制冷能力下降。
6. 请勿使废水在流入下水道之前直接排放到地板上，地面上的异物可能会混入水中并堵塞下水道，或者水可能会朝错误的方向流动。

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，瓶罐内的液体可能会结冰造成瓶罐破裂，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，从而可能会导致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。

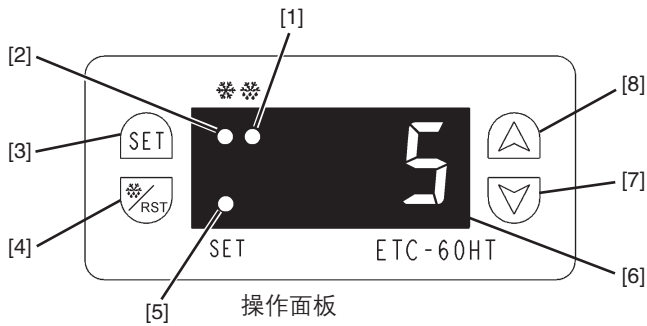
2. 柜内温度设定

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 10

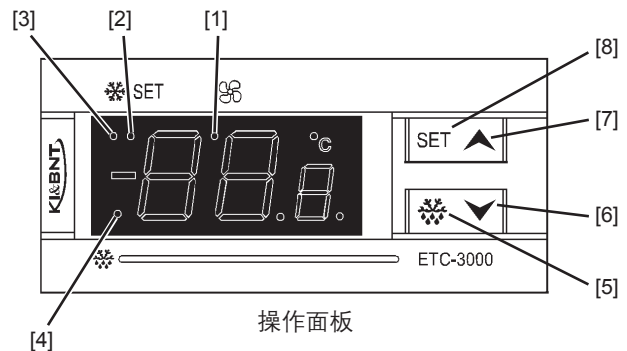
- 1) 打开窗板。
- 2) 按住设定按钮3秒钟：
当菜单密码设为“0”时，设定指示灯将点亮，且显示屏上将显示“F01”菜单。此时无密码验证，可直接进入菜单模式以设定参数。
当菜单密码未设为“0”时，设定指示灯将闪烁，且显示屏上显示“00”。按向上或向下按钮，输入密码“55”。然后按设定按钮确认密码输入。如果密码正确，则系统进入菜单设定项。如果密码不正确，则设定指示灯将熄灭，且系统将回到正常测量和控制状态。
- 3) 温度设定：
按向上按钮。设定指示灯将闪烁，且显示屏将显示设定温度。
按向下按钮。设定指示灯将闪烁，且显示屏将显示蒸发器的温度。
进入菜单设定后，按向上或向下按钮，选择“F02”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 | °C |

重要

1. 必须将温度设定在-2 ~ 12°C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 11

- 1) 打开窗板。
- 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 $-7 \sim -23^{\circ}\text{C}$ 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，显示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，压缩机停止运行。而当柜内温度上升至高于设定温度 4°C 时，压缩机启动。因此，柜内的平均温度将保持在高于设定温度 2°C 左右。

设定温度(压缩机关闭温度)

停止运转除霜(RTC系列): $-2 \sim +12^{\circ}\text{C}$

加热器除霜(FTC系列): $-7 \sim -23^{\circ}\text{C}$

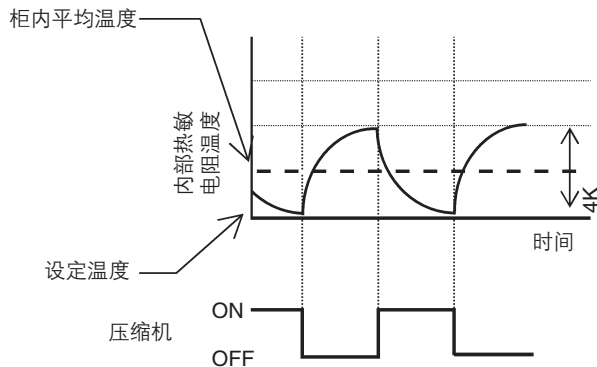


图 12

3. 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。

4. 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 |

5. 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) 拔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. 请勿将塑料部件放入温度超过 40°C 的水中或洗碗机中清洗，以免损坏部件。

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 13

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。
- * 用抹布擦干柜内残留的水。

2. 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。

请每月至少对空气过滤网检查两次。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) 将空气过滤网从前板滑出。
- 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) 将空气过滤网滑回前板中。

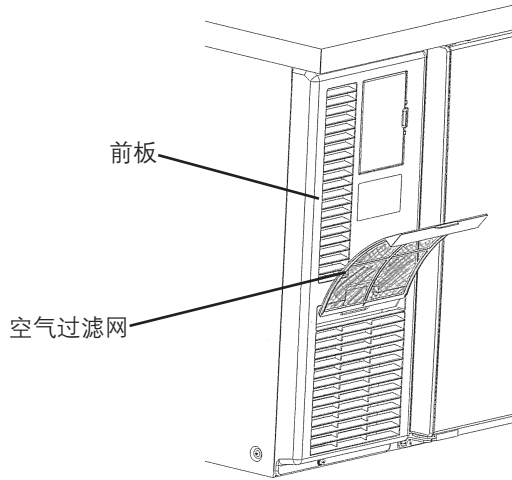


图 14

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 | 运行情况和补救措施 |
|----|---------|--|
| E1 | 柜内传感器故障 | 压缩机停机。按任意按钮停止报警声。当故障诊断结束时，系统将重新计算压缩机延时。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。按任意按钮停止报警声。请立即联系星崎授权的维修公司。 |

冷冻柜

| 代码 | 可能的原因 | 运行情况和补救措施 |
|-----|--------|--|
| 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。若问题无法解决，请立即联系星崎授权的维修公司。 |
| LLL | 环境温度过低 | 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。若问题无法解决，请立即联系星崎授权的维修公司。 |

* “dF” 代码并非故障代码，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。
- (2) 频繁打开柜门。
- (3) 柜内温度设定过高。
- (4) 柜内塞满了食物或进风口/出风口阻塞。
- (5) 空气过滤网脏污。
- (6) 柜门未关闭。
- (7) 柜内存放了温热或滚烫的食物。
- (8) 机器处于除霜过程。在除霜过程中，柜内温度可能会暂时上升，但不会影响柜内的食物。

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、冷凝器风扇马达或内部风扇马达的正常运转声。
- (2) 安装在不稳定的地面上。请联系授权的星崎维修公司。
- (3) 未在左右或前后方向上调水平。请联系授权的星崎维修公司。

5) 柜内结霜：

- (1) 环境湿度过高。
- (2) 频繁打开柜门。

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。

警告



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，以正确处置冷藏柜/冷冻柜。

5. 保修

星崎向所有者/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，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则不在星崎的责任范围内。

保修范围内的维修应由授权的星崎经销商或维修机构采用星崎的原厂零部件实施。

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 (RTC/FTC-180MDA)

制品标准番号：

[RTC/FTC-180MDA]

GB 4706.1

SB 10424

JB/T 7244

[非RTC/FTC-180MDA]

GB 4706.1

GB 4706.13

GB 4343.1

GB 17625.1



WARNING

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

Keep Dry

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.

- Note: 1. Attach the four legs provided to the mounting holes located at the bottom of the unit.
2. For RTC/FTC-90M*A, attach the five legs provided to the mounting holes located at the bottom of the unit.

2. ACCESSORIES

| Width | 900mm | 1200/1500mm | 1800mm |
|------------------|-------|-------------|---------|
| a) Shelf: | 2 [2] | 4 [4] | 6 [6] |
| b) Shelf clip: | 8 [8] | 16 [16] | 24 [24] |
| c) Shelf holder: | 5 [0] | 10 [0] | 15 [0] |
| d) Leg: | 5 [5] | 4 [4] | 4 [4] |

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

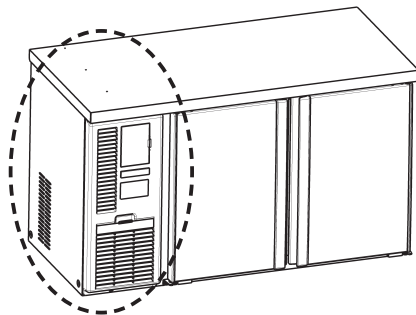
3. LOCATION

IMPORTANT

This refrigerator/freezer is not intended for outdoor use. Normal operating ambient temperature should be within 5°C to 38°C.

I. INSTALLATION INSTRUCTIONS

1. CONSTRUCTION



Machine Compartment

Fig. 1

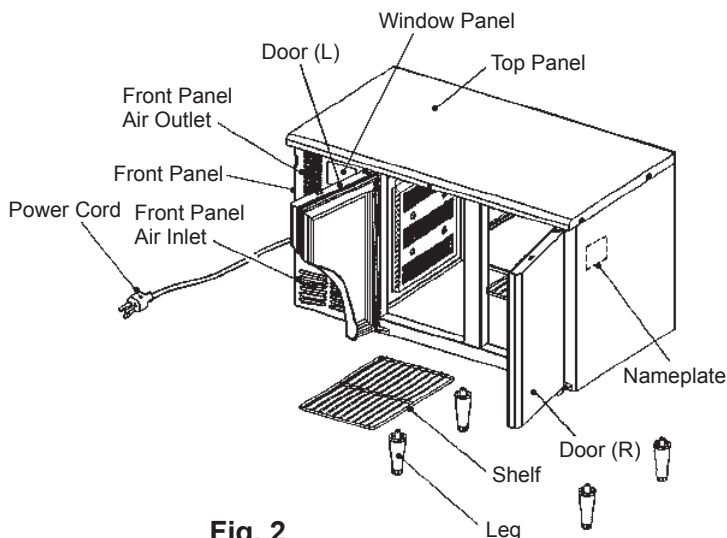


Fig. 2

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 50 cm clearance between the front panel air inlet/outlet and the wall or other equipment for proper air circulation. The front of the unit should have enough space for smooth adjustment of the cabinet temperature. If the ambient temperature can exceed 38°C, allow at least 10 cm clearance from the wall at the side of the machine compartment to prevent overloading and damaging the refrigeration circuit.

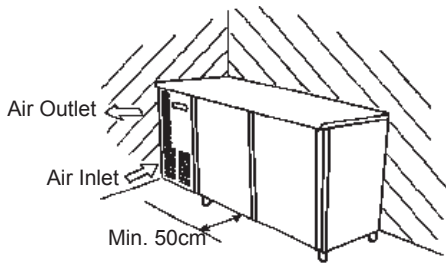


Fig. 3

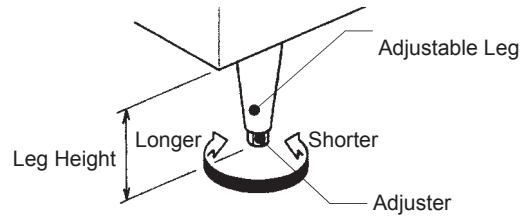


Fig. 6

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.

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.

- 1) Cut the shipping band and remove the carton.

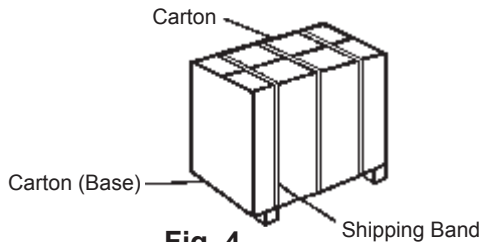


Fig. 4

- 2) Take out the accessory legs.
- 3) Tilt the unit backward to mount the front legs (work in pair).

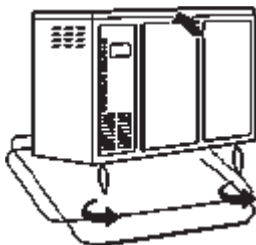


Fig. 5

5. SHELF, SHELF CLIP AND SHELF HOLDER

- * 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.

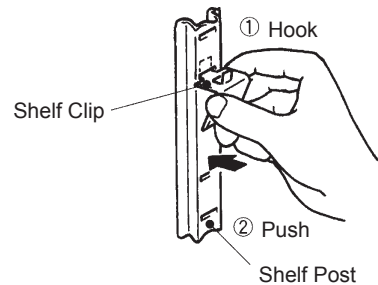


Fig. 7

- 4) Mount the rear legs in the same way.
- 5) Before operating the unit, remove all shipping carton, packing, tape(s) and protective plastic film on the exterior, interior and top panel. Be careful not to damage the exterior panels.
- 6) Position the unit in a selected site.
- 7) Clean the interior with a soft cloth soaked in cold or warm water containing the proper amount of neutral cleaner and wrung dry.
- 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.

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 and one to the center frame as shown below.

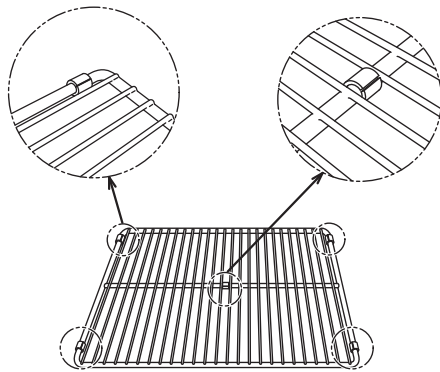


Fig. 8

IMPORTANT

When using the shelf at the bottom of the cabinet, be sure to use the shelf holders to prevent damage to the cabinet bottom, resulting in corrosion.

6. ELECTRICAL CONNECTIONS

IMPORTANT

This refrigerator/freezer is provided with no power switch or earth leakage circuit breaker, but with overcurrent protection (fuse) only. Install a switch rated at least 10A 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

- 1) Connect the accessory flexible hose with trap to the drain outlet located at the bottom of the unit.
 - 2) Use the accessory cable strap to fix the trap tightly to the mounting hole on the bottom of the unit.
- * The flexible hose may not be provided for some models. If necessary, order the accessories (3S1332A02).

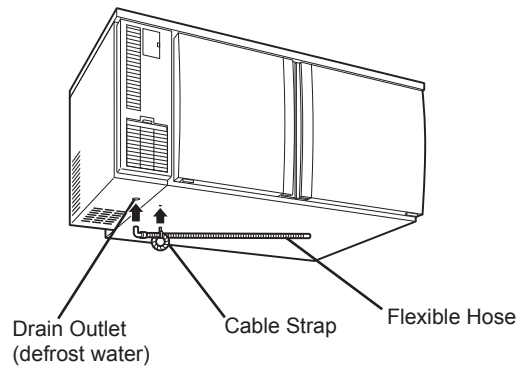
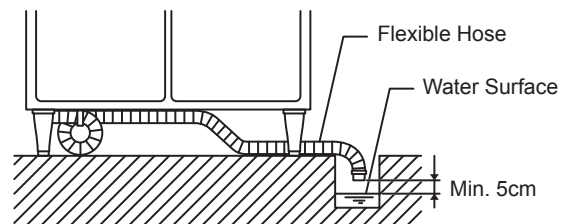


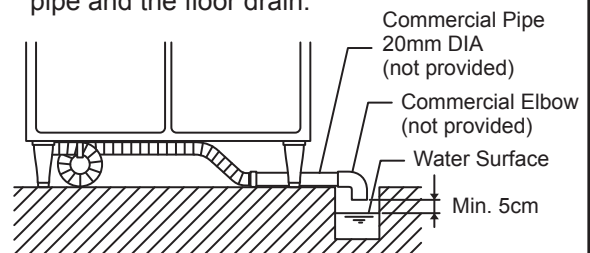
Fig. 9

IMPORTANT

1. To prevent disconnection, be sure to use the cable straps to secure the flexible hose in place.
2. The drain line should be as short and straight as possible, sloped downward, and located below the drain outlet.
3. To prevent backflow, do not connect the flexible hose directly to the sewer system. An air gap of at least 5 cm should be between the end of the flexible hose and the floor drain.



4. If the flexible hose is too short to reach the floor drain, connect a commercial pipe to the flexible hose. Be sure to allow an air gap of at least 5 cm between the end of the drain pipe and the floor drain.



5. The drain connections are required to prevent ambient air from causing excessive frost build up on the evaporator, resulting in reduction of the refrigeration capacity.
6. Do not let water drain directly onto the floor before running into the drain. Foreign matter on the floor may mix into the water and clog the drain, or the water could run in a wrong direction.

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 benzene, 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.

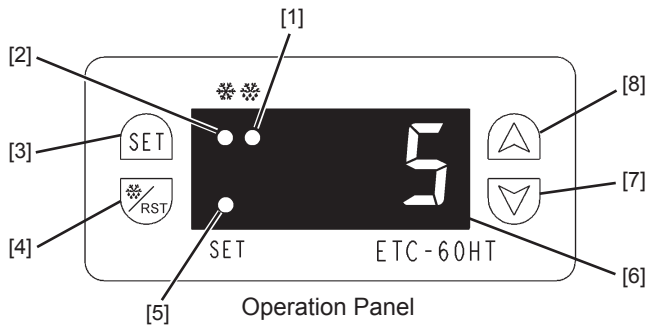
2. CABINET TEMPERATURE SETTING

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. 10

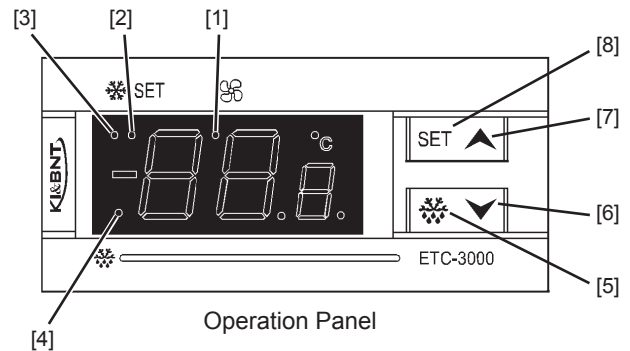
- 1) Open the window panel.
- 2) Press the set key for 3 seconds:
When the keypad password is set as "0", the set indicator light comes on and the screen displays the "F01" menu. There is no password authentication, so directly enter the menu mode to set parameter.
When the keypad password is not set 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. 11

- 1) Open the window 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 (RTC series): -2 to +12°C
 Heater defrost (FTC series): -7 to -23°C

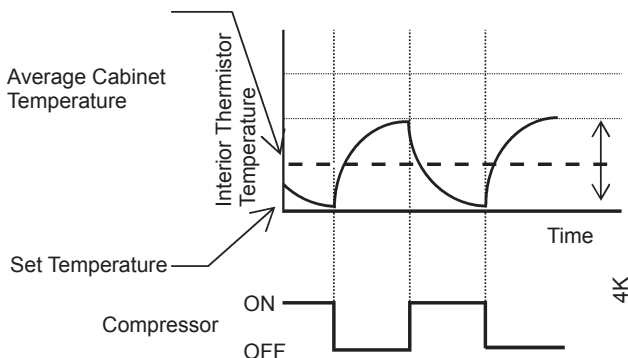


Fig. 12

3. 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.

4. 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 |

5. 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.

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.

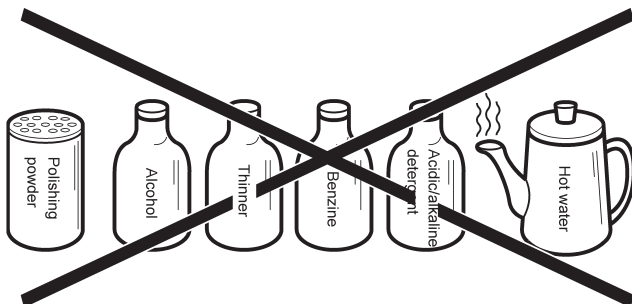


Fig. 13

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

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 filter at least twice a month. When clogged, use warm water and a neutral cleaner to wash the filter. Do not operate the unit with the air filter removed, or the condenser will get clogged, resulting in failure.

- 1) Slide the air filter out of the front panel.
- 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) Slide the air filter back into the front panel.

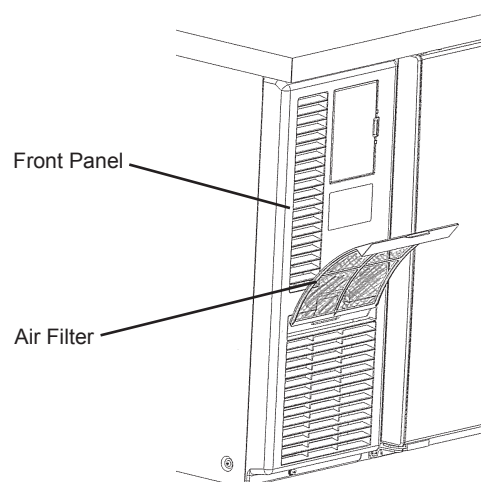


Fig. 14

ENGLISH

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.
 - (2) Door(s) opened too often.
 - (3) Cabinet temperature setting too high.
 - (4) Too packed with foods or air inlet/outlet blocked.
 - (5) Air filter not clean.
 - (6) Door(s) left open.
 - (7) Warm or hot foods inside.
 - (8) Unit in defrost process. The cabinet temperature may rise temporarily during defrost cycle but will not affect the foods inside.
- 3) Condensation around door(s):
 - (1) Ambient humidity too high.
 - (2) Door(s) not closed tightly.
- 4) Noise:
 - (1) Normal operating sounds from compressor, condenser fan motor or Interior fan motor.
 - (2) Installed on an unsteady floor. Contact an authorized Hoshizaki service company.
 - (3) Not leveled in the left-to-right or front-to-rear directions. Contact an authorized Hoshizaki service company.
- 5) Frosting inside compartment:
 - (1) Ambient humidity too high.
 - (2) Door(s) opened too often.

4. DISPOSAL

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

WARNING



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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