**Model ST-21CF**

# Owner's Manual

**NOTE:** Read this manual carefully before you operate the machine. Properly keep this manual for any future reference

## NOTICES & ROUTINE MAINTENANCE

**1)** The unit cannot be re-started until after a half an hour on the leveled floor that it is moved to. The unit should be left to run for two (2) full hours before food is put into it for storage.

**2)** **DO NOT** switch on the unit within ten (10) minutes after a sudden power failure.

**3)** The food should be stored with some spare space so as to allow for smooth air circulation.

**4)** The temperature of the food in the unit should not exceed the ambient temperature of the unit.

**5)** Acids, alkaline, corrosive substances, volatile, or inflammable materials cannot be stored in case of damage to the cabinet of the unit.

**6)** How to clean your SunStar unit
- **a)** Pull the plug off before cleaning the unit.
- **b)** Wipe down the interior walls with a soft cloth dipped in a neutral detergent.
- **c)** Exhaust the condensed water or wipe it off with a dry clean cloth.
- **d)** The outside of the unit can be cleaned with thin soda water or alcohol and then wiped clean with a damp cloth.

**7)** After the unit has been in use for half a year, wipe off the dust that has accumulated on the condenser, fan, and compressor.

**SUNSTAR TECH SUPPORT: 260-214-0949**

**FAX: 260-499-4984**



# Table of Contents

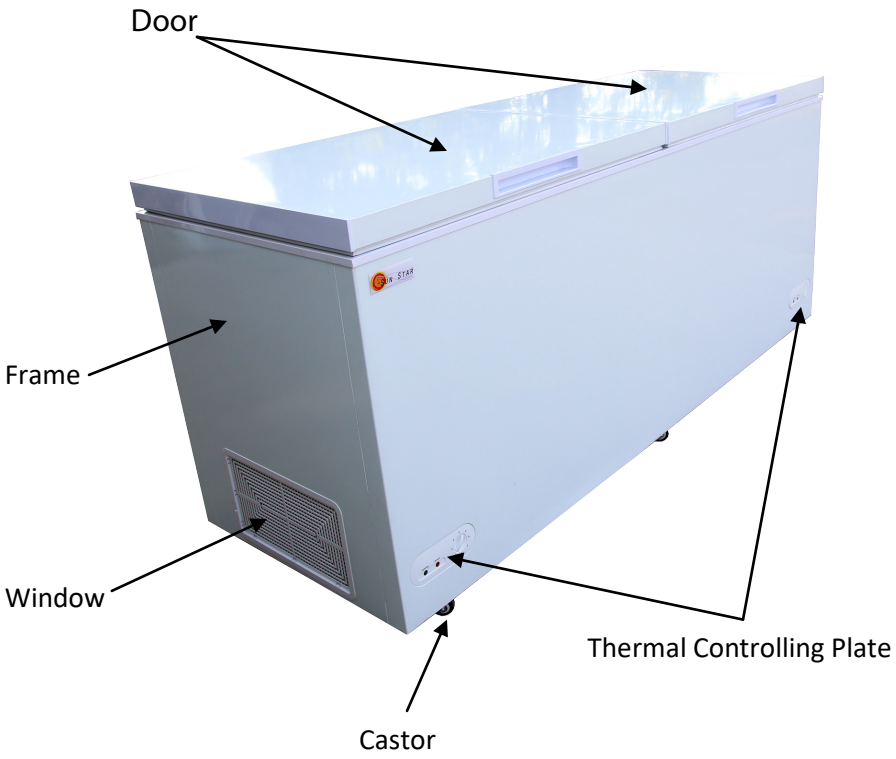
**Dear Customer:** Please follow the user manual to achieve the best service performance and the longest service of life for your machine.

# PACKING LIST

The following should be included in your SunStar Unit Packaging. If something is missing, please contact the number at the back of this manual.

| Item Number | Description | Quantity |
|---|---|---|
| 1 | Freezer | 1 |
| 2 | User Manual | 1 |
| 3 | Warranty Registration Card | 1 |
| 4 | Suspending Basket | 2 |
| 5 | Cabinet Partitioner | 2 |

# EXTERNAL APPEARANCE






**FORM 2**

| Fault | Cause | Solution |
|---|---|---|
| Faulty indicators and / or non operation of the compressor | 1. Loose contact<br>2. Loose cables | 1. Make it tight<br>2. Make it tight |
| The compressor is running abnormally or with unusual noise | The supply voltage is 85% lower than the rated value. | 1. Switch the unit off immediately until the recovery of the voltage supply is normal. A voltage regulator with an input power five (5) times larger is required if the voltage fluctuation exceeds that which is specified.<br>2. Check the input voltage on the module and power supply battery if it is out of operating voltage.<br>3. Check the cable length between the battery and module. Please refer to "Cable Requirements" on page 5 of the User Manual. |
| The successive automatic shut-off of the compressor several minutes after start up | The supply voltage is 110% higher than the rated value. | |
| The storage temperature rises while the compressor is running properly | 1. Frequent opening of the doors.<br>2. The cabinet is overloaded with tightly packed food.<br>3. Too much frost accumulation.<br>4. Door leakage.<br>5. Gasket failure. | Try to open the doors less frequently.<br>Arrange the food orderly with enough space for smooth air circulation.<br>Take out frozen food and remove the frost.<br>Adjust the door sealing. |
| Abnormal noise in general is being produced | 1. The unit is not leveled<br>2. Loose fastening parts<br>3. Unwanted contact between pipes | 1. Adjust the unit to a stable and leveled floor.<br>2. Tighten the loose parts.<br>3. Keep the parts away from each other. |

## GENERAL FAULTS & TROUBLE-SHOOTING

**1)** In case of an abnormal operation, please refer to the table shown on page 7 (**Form 2**) for inspection and possible solutions. If the faults cannot be solved, please contact the service department of our company or our local institutions with special engagement.

**The following are <u>NOT</u> results of faulty equipment:**

**1)** The condenser in the corresponding internal wall will make the external condenser feel hot.

**2)** The intermitting noise heard in the cabinet during operation of the unit some time after shut-off is caused by the circulating flow of coolant in the condensing pipes.

**3)** The surface temperature of the compressor may rise to a range between 66°C/150°F and 90°C/194°F.

**4)** The condensed water beads on the external side of the unit or door during the rainy seasons will not affect the operation of the unit. The water beads may be wiped off with a dry cloth.



## MAJOR TECHNICAL PARAMETERS

**FORM 1**

| Product Model | Power | Available Capacity |
|---|---|---|
| ST-21CF | DC 12V/24V | 600 L<br>21 cu. ft. |

| Working Temperature | Input Power (W) | Power Consumption (kwh/24hrs) |
|---|---|---|
| -15°C ~ -22°C<br>5°F ~ -7.6°F | 2 x 60 | 2 x 0.6 |

| Refrigerant R134A Amount | Net Weight | Exterior Dimensions |
|---|---|---|
| 2 x 150 g<br>2 x 0.33 lb | 135 kg<br>297.62 lb | 210.5cm x 80.6cm x 96.6cm<br>82.9 in x 31.7 in x 38 in |

## TRANSPORT AND STORAGE

**1)** When loading and unloading the unit, the angle of the inclination should not be any more than 45 degrees while the unit is being moved. Keep the unit steady when in transit, especially when handling units with glass doors.

**2)** The unit should be placed in a well ventilated, dry, and cool place in order to avoid direct exposure to sunlight.

**3)** Remove the packaging material from inside and outside the unit before use. Arrange for the unit to be no less than six (6) inches from the wall at the back and side.

# START UP & TEMPERATURE REGULATIONS

1) **START UP**
   - **a)** Switch the power on and the red indicating light on the temperature control panel will come on (**See Figure 4 on Page 4**), and the compressor will start up. The machine will begin to refrigerate/freeze.
   - **b)** Protection signal of the controller is a green indicating light. It will flash a number of times if fault occurs. Count the number of flashes and compare with the chart below:

| Flash Number | Fault Occurring |
|---|---|
| 1 | Battery Protection Cut Out |
| 2 | Fan Over-Current Cut Out |
| 3 | Motor Start Error |
| 4 | Minimum Motor Speed Error |
| 5 | Thermal Cut Out of Module |

(The module will run too hot if the unit system has been too heavily loaded or if the ambient temperature is higher than 45°C /113°F.)

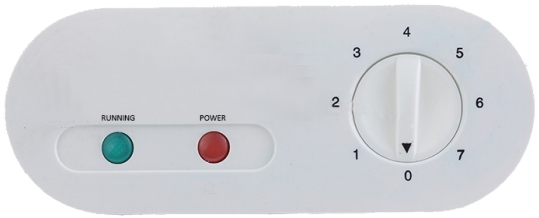
   - **c)** The unit will not run if there is a fault connecting the anode and the cathode of the voltage compressor.

2) **TEMPERATURE REGULATIONS**

The temperature will gradually drop when the knob of the thermostat is turned clockwise (to the right) and will gradually gain when the knob is turned counter-clockwise (to the left). When the arrow on the knob is pointed to the extreme cold, the compressor will keep working. However, it is not recommended to use the unit for too long at such an extreme temperature condition for it may result in damaging the compressor.



**FIGURE 4**




# CABLE REQUIREMENTS

To ensure the correct start and operating conditions for the unit, the following cable dimensions must be observed:

| Wire Sizing Chart (Gauge) | Max . length between battery and compressor module (ft.) | |
|---|---|---|
| | 12V/DC | 24V/DC |
| # 8 | 15 ft | 30 ft |
| # 6 | 25 ft | 50 ft |
| # 4 | 35 ft | 70 ft |

# SAFETY PRECAUTIONS

1) Use an independent 12V/24V DC outlet with a capacity of no less than 30A. A DC 12V/24V chest unit is not required to be grounded.
2) Disconnect the plug from the outlet if the unit is to be left unused for a long period of time. Check if the connection is okay before it is put into use again.
3) Do not immediately switch the freezer on and off – it will damage the compressor module. The normal time interval is ten (10) minutes.
4) The compressor is only allowed to connect to a 12V/24V DC system. It is forbidden to connect the compressor directly with an AC power supply.
5) The Supplier is not responsible for any accidents or losses incurred from the unit.