

# USER MANUAL

## OPEN AIR MERCHANDISER



**MODEL:** SOC-51-B, SOC-61-B, SOC-76-B, SOC-51-W,  
SOC-61-W, SOC-76-W, SOC-76-220-B, SOC-76-220-W



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## Safety and sign

Safety: display showcase should install on the place where coincide with operation manual.

Authorization: all works to my company display showcase and cooling system should be operated by qualify authorized skilled staff

Safe operation: In order to avoid danger maybe happen, before operation all workers must read carefully such operation manual

Safety sign: safety sign has been special point out, in order to avoid danger sign must be obey wholly

attention!



Prevent possible danger to equipment occur

carefully!



Prevent possible danger to person occur

caution!



Prevent serious danger to person occur

Danger!



Prevent fatal accident to person occur

## Ready item for transportation and opening package



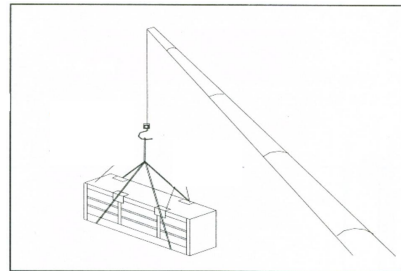
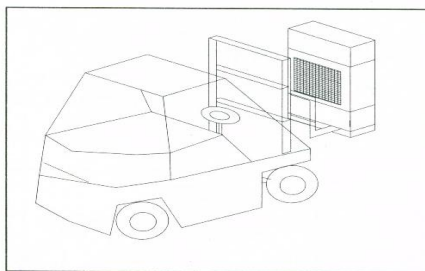
There are glass or other easy smash goods in equipment and package, please be carefully in transporting, handling or moving equipment.





When receive equipment, please check and examine all products as per packing list listed, only confirming all products are good without damage or missing can accept products. If there is visible destroy or damage, please remark on the transportation documents or receipt and confirmed signature by transportation agent, unless transportation agent can reject claims for compensation. At the same time please contact with local staff, our local staff will provide necessary examination paper for claims for compensation.





Unload from truck, double fork is necessary and more attention for safety, if unload by crane,  $\phi 10\text{mm}$  or above tightwire or metal strip should bind to pointed place, slowly unload to ground.




 When moving equipment please move wooden pallet under equipment bottom, do not carry or seize equipment parts avoid to damage; Meanwhile equipment should be delivery balanced, no slant, no fell flat, no upset equipment.

 There are one set of operation manual, one eligible certificate, one contract products packing list, one set of assembly packing list (if there is no assembly needed, there is no such packing list), please check each listed item.


 To Split model of display showcase, cabinet, unit and assembly installation should be made by our company authorized staff, please do not open package avoid damage to cabinet and accessory.

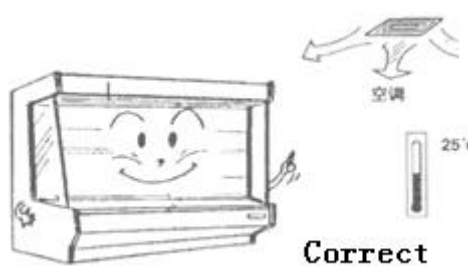
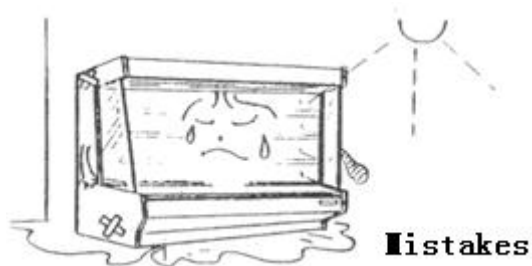
 Please slowly and softly operation when opening package avoid damage to display showcase and accessory; remove display package please do not confuse or miss parts and accessory within package, please install directly in place

 If damage or destroy only found after opening package, claim must be made for loss. Once find damage written application for transportation agent to check, examination must be made within 15 days, keep all package for examination too.


## Notice in operation

### 1. Emplace

 Display showcase must be used indoor, can't be used outdoor, should be used in supermarket, restaurant, shop where air-conditioner working well, in where temperature keep 25°C or below, humidity 60%, environment wind speed  $\leq 0.2\text{m/S}$  and without heat fountainhead effect. when temperature, humidity or wind speed in high condition freezing efficiency of display showcase couldn't meet to use requirement.



### Idiographic use requirement:

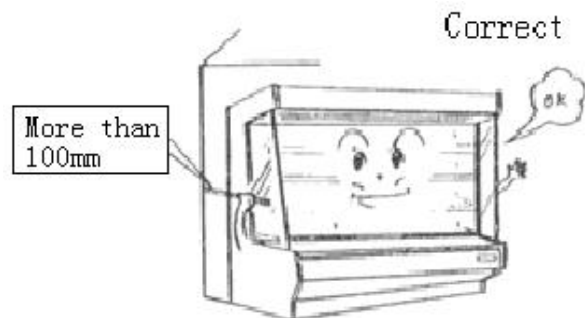
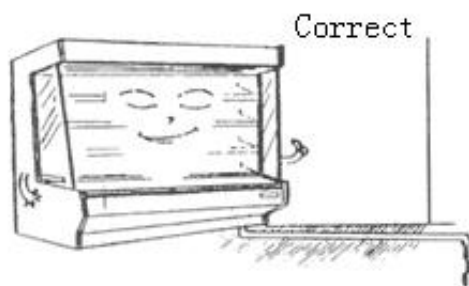
 In using voltage should keep within rated voltage  $\pm 10\%$ , if voltage unstable please select safe and reliable regulator

❶ Power supply of display showcase and cooling unit where should add display showcase appropriate electricity creepage safeguard

❶ Cooling unit environment temperature should below 40°C, environment cleanness, no dirty, no sundries, unit in room should in good ventilation; if exposure in air there should add anti-rain, anti-sun sail, wire netting protector.

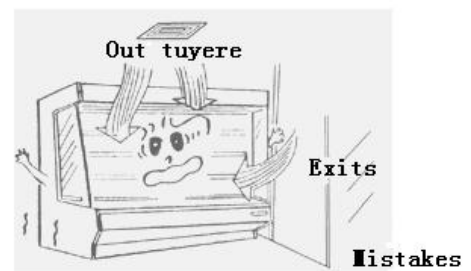
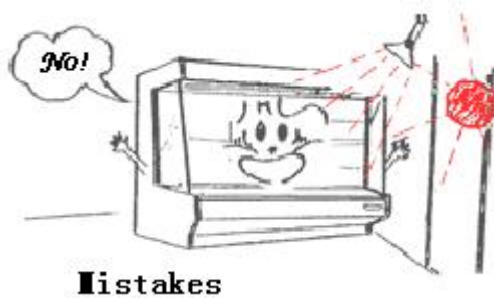
☞ Display showcase must be installed on level off ground, notice installation even, guarantee drainage swimmingly

☞ When place against wall, there must be 110mm gap between cabinet backboard and wall, avoid cabinet backboard dew





☞ Avoid install display cabinet on the place sun, light point-blank or near by heat fountainhead


☞ Avoid install cabinet near by pass in and out of wind, exit of ventilation, fan or door, window turn or off frequently, avoid air curtain of display showcase effected negatively




## 2. Installation


 notice for moving display showcase, please refer to above <ready item for transportation and opening package> part.


 Unload ground bolt, down lift cabinet, set up ground bolt to branch leg, place display showcase to position selected

 Take out parts within inner display showcase, check as per packing list if all parts are there


## 3. Cabinet make up


 Stick sponge adhesive tape to cabinet make up panel, equably and continuous spread airproof glue on the outside of sponge adhesive tape


 Move two cabinet which want to make up as near as possible, adjust ground bolt and cabinet, line the front and back, top and bottom


 Fit localizer on the anchor point, close up two cabinets


 Joint cabinet and fix them by bolt and nut


 Fit accessories of each display showcase, please be noticed that each accessory (such as point, close arm, label and so on) should be same position and incline angle


 According to reserved drainage place, fit each showcase drain elbow, ternate tie-in and so on, please be careful spread reasonable adhesive glue on every joint part to guarantee no water leakage

 Dispose, install and connect refrigeration pipeline and electric control wiring according to project design


 After air tight test pressure confirmed, exhaust air then impregnate freon, then examine if electric error or not

 Fit decorative panel (including bottom panel, side panel, top panel), joint with decorative panel






 Check every accessory, adjust and modulate every part to appropriate condition

 Examine fixed implement, refrigeration parts and accessory if there is missing, error

 Clean inner and outer of cabinet, accessory with alcohol and detergent

 Deliver operation manual and usual spare parts to user and explain using methods to user, user signature on the delivery paper, installation finish


#### 4. Use


-  Interspace should be reserved in display showcase when put foods in order that cooling air circulation and foods deposited
-  Foods should not exceed or barrier draught back entry to avoid cooling air no circulation
-  Do not put foods on the draught back entry in showcase, unless temperature couldn't meet to requirement in showcase
-  Caution: do not put frozen foods or cold foods to wrong display showcase
-  In order to lessen unnecessary foods waste and energy loss, foods should have reasonable package in showcase at same time please lessen showcase, unless out foods frequency as possible


#### 5. Using safety concerned


Connect power to run the display showcase, put into showing products only after


temperature in showcase decline to rated range (refrigeration: 5°C~10°C, freeze: 5°C~10°C)


 Individual three-core single socket fitted with reliable ground wire and suitable air switch with electricity creepage safeguard, ground wire could not select neutral conductor of network or water pipe or caliduct


 Do not keep flammable, explosive, volatile gas or liquid in showcase


 Before clean cabinet general power supply must be cut off, only no power confirmation can clean and clear cabinet


 Soft cloth dipped with neutral uncorrosive scour wipe cabinet and parts, then clean with dry cloth. Do not use acidic, alkaline or acidic, alkaline scour to clean cabinet


 Take or put into foods softly, do not throw or chuck foods avoid to damage cabinet and accessory


 Cut off power please connect power again after 5 minutes avoid to damage electric parts in display showcase

 Periodic check evaporator defrost in showcase, if defrost not so clean please contact skilled staff to resolve

 For the sake of energy consumption please pull out night blind when market Closing

 Pull out or close night blind slowly and softly till to night blind into position avoid to damage night blind and accessory

 Please arrange staff examine display showcase regularly, notice temperature transformation and record temperature digit; if find any problem please contact manufacturer or local service people without delay, settle trouble to guarantee usual use display showcase, avoid unnecessary loss for you.

 In using do not take out foods by wet hand or stand by showcase long time avoid frostbite person

## Maintenance

### 1. display showcase cabinet maintenance

frequency	parts	Contents	remarkable issue
Everyday discover clean in time	appearance parts	1. Water soiled, besmirch wipe 2. Rust vestige clean	1. Clean with water, with neutral scour if necessary 2. Do not use corrosive solvent 3. Pay more attention to clean merchandise containing salt
	shelves and panels	1. Water soiled, besmirch wipe 2. Merchandise trifling, dunghill clear	every hole and corner should clean avoid bacterial multiply
	showcase accessory and food rack net	1. soiled, besmirch wipe 2. Partition net, price code clean	clean ice, dunghill in net hole, crack
once/month	cabinet and all accessory	Water soiled, besmirch wipe	notice clean and clear outside and inside everywhere
	viewfinder	Water soiled, besmirch, dust wipe	use neutral scour notice glass edges and corners
	lighting	1. dust, besmirch wipe 2. moisture wipe	clean in time moisture in fluorescent lamp avoid electric short circuit burn
	launch exit, evaporator shelves, evaporator room	dunghill, sundries clean and clear	do not pour sundries into drainage pipeline avoid to block channel
	compressor room, refrigeration unit	refer to evaporator clean	notice must cut off power supply then operate

Once/3 months	cabinet place with draught back entry	1.Merchandise trifling, dunghill clear 2.Deposited rchandise clean 3.Drainage pipe exit block clean 4.Swash with clean water	remove relevant spare parts, such as guide glass, side glass, low shelves and so on. Pay attention to keen-edged steel edges and corners, bolt neb and so on, beware scratch
	evaporate fan motor	appendiculate wipe and clear	Notice: prevent water into fan motor
	evaporate room	1.Merchandise trifling, dunghill clear 2.Deposited merchandise clean	Notice: keen edges and corners of steel, ice and frost on evaporator couldn't knocked and root out by tools
	compressor room, compressor unit	1.Dust in compressor room clean 2.Condensor dust clean 3.Refrigeration system examination 4.Joint wire of electric parts examination	Notice: prevent water into electric components, avoid pipeline and electric wiring destroy

## 2. refrigeration system maintenance

Condenser maintenance: condenser is main heat disperse components in refrigeration system, which heat disperse aluminum sheet easily cling dust, poor situation decline compressor cooling capacity temperature in cabinet rise; severity situation can burn compressor lead to magnitude loss



Before clean chief power supply must be cut off, guarantee there is no power supply can operate start



Swash condenser from up to down with water, swash uniformly to each wing of condenser



When oil besmirch or dust badly, neutral scour or special aluminum besmirch scour should be added to swash



Caution: prevent water into fan motor, compressor and such electric components



Finish evaporator rinse, puff wash condenser with high pressure nitrogen or compressed air, puff out water and filth between wing











Caution: do not puff to the direction of fan motor, compressor






Check condenser fan motor, compressor and such electric components, all components in good condition can power supply and start machine



### 3.compressor and electric implement maintenance

-  Check compressor bottom foundation is fixed or not, lessen crowded or shift
-  Check compressor or unit oil mirror, oil level should between 1/2 ~ 2/3 on oil mirror (shut down condition), between 1/4 ~ 2/3 (running condition)
-  Check system pressure controller, temperature thermostat, defrost controller, oil pressure controller, cooling spray system and three way cockcrows cock and such components condition
-  Check lighting components, temperature display instrument, electromagnetic valve, heater elements working condition
-  Check electric wiring fasten or not, every joint point insulation and airproof
-  Check power supply each phase voltage, phase sequence meet to demand, relevant phase voltage imbalance  $\leq 3\%$ , compressor, condensor fan motor supply phase voltage and phase sequence right
-  Observe if unconventionality noise or phenomena when system working
-  caution: power supply must be cut off when check electric components, or check by authorized staff

### drainpipe maintenance

-  Check cabinet inside and outside drain situation, guarantee outfall no ice or dirty block
-  Check drainpipe, guarantee drainpipe slope lead to ground leak, gradient 1/50 ~ 1/200
-  Check drainpipe leakage, disrepair

## Trouble Shooting

trouble	possible trouble parts	reason	settlement
compressor no start	power supply	<ol style="list-style-type: none"> <li>1. switch off</li> <li>2. fuse off</li> <li>3. voltage too lower</li> </ol>	<ol style="list-style-type: none"> <li>1. turn on switch</li> <li>2. check and renew fuse</li> <li>3. check power supply and wiring pathway</li> </ol>
	electric component	circuit disconnection or touch badness	Check circuit, connect well
	controller component or protector	<ol style="list-style-type: none"> <li>1. thermostat work but electricity off</li> <li>2. high pressure work no well</li> <li>3. low pressure work no well</li> <li>4. electromagnetic valve close</li> <li>5. start relay no work</li> <li>6. operator relay work no well</li> <li>7. over loading protector disconnection</li> </ol>	<ol style="list-style-type: none"> <li>1. wait for thermostat work</li> <li>2. wait for action point close, pressure recovery then turns on start button</li> <li>3. wait for action point close, pressure recovery</li> <li>4. check electromagnetic valve if damaged then renew</li> <li>5. check, repair or renew</li> <li>6. check, repair or renew</li> <li>7. wait for work, or check or repair or renew</li> </ol>
	refrigerant	refrigerant leakage	check and block leakage, repair then fill in refrigerant
	compressor	<ol style="list-style-type: none"> <li>1. compressor inner mechanism trouble</li> <li>2. compressor inner motor burn</li> </ol>	<ol style="list-style-type: none"> <li>1. repair and renew</li> <li>2. check out reason and renew</li> </ol>
start then soon stop, protector work	power supply	fuse broken	check capacity and renew
	over load protector	<ol style="list-style-type: none"> <li>1. over load protector setting value too low</li> <li>2. electricity exceeds</li> <li>3. voltage too low or three phases imbalance</li> <li>4. condensation no well or condensation pressure too high</li> <li>5. evaporate pressure too high</li> </ol>	<ol style="list-style-type: none"> <li>1. modify setting value</li> <li>2. check reason and modify</li> <li>3. check reason and modify</li> <li>4. check reason and modify</li> <li>5. check reason and modify</li> </ol>

	safety protector	high pressure switch work	<ol style="list-style-type: none"> <li>1. mix air in system</li> <li>2. condenser dirty block or environmental temperature too high</li> <li>3. refrigerant exceeds</li> <li>4. setting value too high</li> </ol>	<ol style="list-style-type: none"> <li>1. eliminate no refrigeration gas</li> <li>2. clean condenser or reinforce ventilation</li> <li>3. reduce refrigerant filling quantity</li> <li>4. modify setting value</li> </ol>
		low pressure switch work	<ol style="list-style-type: none"> <li>5. refrigerant leakage or filling less quantity</li> <li>6. expand valve start no well</li> <li>7. setting value too high</li> </ol>	<ol style="list-style-type: none"> <li>1. repair leakage point, add refrigerant filling</li> <li>2. adjust start degree or renew</li> <li>3. modify setting value</li> </ol>
	thermostat	thermostat setting improper		modify setting value
	compressor over hot	<ol style="list-style-type: none"> <li>1. voltage too high or low</li> <li>2. three phase voltage phase shortage</li> <li>3. refrigerant not enough, motor cooling no well</li> <li>4. pressure output over high</li> <li>5. inhalational gas temperature too high</li> <li>6. mix no refrigeration gas</li> <li>7. compressor cooling capacity shortage</li> </ol>	<ol style="list-style-type: none"> <li>1. check power supply, guarantee within rated voltage <math>\pm 10\%</math></li> <li>2. check switch touch point and fuse</li> <li>3. fill refrigerant</li> <li>4. check condensation, ventilation</li> <li>5. adjust expand valve or buildup inhalation pipe heat preservation</li> <li>6. eliminate no refrigeration gas</li> <li>7. reinforce ventilation, debase environment temperature</li> </ol>	

unconventional sound in running	liquid condensation	<ol style="list-style-type: none"> <li>1. stop running, liquid refrigerant keep in crooked axis cabinet, start then lubricant oil and liquid refrigerant condensed</li> <li>2. refrigerant filling too much</li> <li>3. expand valve open exceed, liquid flow backwards</li> </ol>	<ol style="list-style-type: none"> <li>1. augment oil Tunk, reduce liquid refrigerant flow to compressor, when long time stop machine, please run crooked axis cabinet heat element</li> <li>2. reduce refrigerant</li> <li>3. adjust expand valve opening degree</li> </ol>
	refrigeration pipeline	pipeline tremble	fasten pipeline
	unit foundation	installation bolt loosens and tremble	fasten bolt, renew shakiness structure
	compressor	<ol style="list-style-type: none"> <li>1. motor magnetic noise</li> <li>2. link, bearing abrasion</li> <li>3. mix with impurity</li> <li>4. inspiration, exhaust valve disrepair.</li> </ol>	<ol style="list-style-type: none"> <li>1. check reason and renew</li> <li>2. check reason and renew</li> <li>3. check reason and renew</li> <li>4. check reason and renew</li> </ol>
refrigeration efficiency no well	exhaust pressure too high	<ol style="list-style-type: none"> <li>1. mix no refrigeration gas</li> <li>2. refrigerant filling too much</li> <li>3. condenser dirty block</li> <li>4. sun-light directly</li> <li>5. compressor ventilation no well</li> </ol>	<ol style="list-style-type: none"> <li>1. eliminate no refrigeration gas</li> <li>2. reduce refrigerant filling</li> <li>3. clean condenser, boost up ventilation</li> <li>4. avoid sun-light directly</li> <li>5. boost up ventilation, avoid air recycle</li> </ol>
	exhaust pressure too low	<ol style="list-style-type: none"> <li>1. refrigerant not enough</li> <li>2. environment temperature too low</li> <li>3. expand valve opening exceed</li> <li>4. compressor condensation capacity letdown</li> </ol>	<ol style="list-style-type: none"> <li>1. add refrigerant filling</li> <li>2. reduce condenser ventilation</li> <li>3. adjust expand valve opening degree</li> <li>4. check compressor inspiration and exhaust valve leakage</li> </ol>
	inspiration pressure too high	<ol style="list-style-type: none"> <li>1. load exceed</li> <li>2. expand valve opening degree exceed</li> <li>3. compressor compress capacity letdown</li> </ol>	<ol style="list-style-type: none"> <li>1. check load capacity and adjust</li> <li>2. check thermostat connection; adjust expand valve opening</li> <li>3. check inspiration and exhaust valve of</li> </ol>

			compressor leakage
	inspiration pressure too low	<ol style="list-style-type: none"> <li>1. load capacity lessen</li> <li>2. evaporator frost too much</li> <li>3. expand valve block or adjust no well</li> <li>4. pipeline leakage or draught back pipe block</li> </ol>	<ol style="list-style-type: none"> <li>1. check load capacity and adjust</li> <li>2. defrost</li> <li>3. check, adjust or renew</li> <li>4. check, repair filter or blocked or leakage parts</li> </ol>