

SINGLE-DECK MERCHANDISER

INSTALLATION & OPERATIONS MANUAL

CNZLA/CNEZLA (R-290)



WARNING / FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING

R290 flammable refrigerant in use. Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

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To ensure proper functionality and optimum performance, it is STRONGLY recommended that Hillphoenix specialty cases be installed/serviced by qualified technicians who have experience working with commercial refrigerated display merchandisers and storage cabinets. For a list of Hillphoenix-authorized installation/service contractors, please visit our website at www.hillphoenix.com.

Hillphoenix®

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Important

At Hillphoenix[®], the safety of our customers and employees, as well as the ongoing performance of our products, are top priorities. To that end, we include important warning messages in all Hillphoenix installation and operations handbooks, accompanied by an alert symbol paired with the word "DANGER", "WARNING", or "CAUTION".

All warning messages will inform you of the potential hazard; how to reduce the risk of case damage, personal injury or death; and what may happen if the instructions are not properly followed.

This manual must be stored near the display case where it can be easily consulted. If this manual does not provide the information you require please contact Hillphoenix for more information.



DANGER

Indicates an immediate threat of death or serious injury if all instructions are not followed carefully.



WARNING

Indicates a potential threat of death or serious injury if all instructions are not followed carefully.



CAUTION

Indicates that failure to properly follow instructions may result in case damage.

Revision History

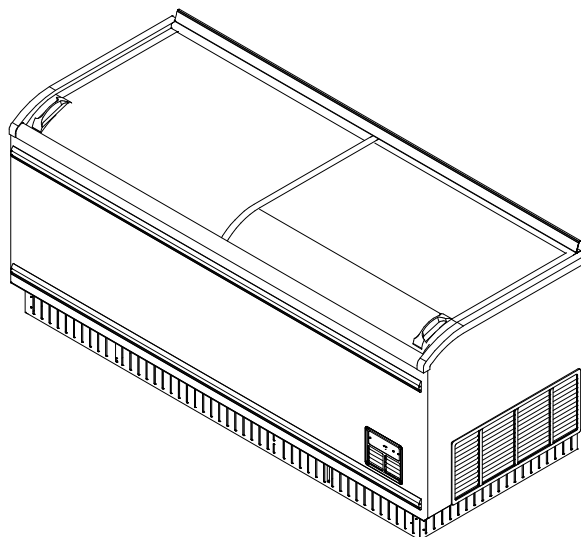
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CNZLA

4', 7', & 8' Coldwall R290 Merchandiser
Beverage/Dairy/Meat/Frozen Food/Ice Cream

GENERAL NOTES:

- "---" indicates that feature is not an option on this case model and/or the data is not yet available.



SHIPPING WEIGHT	
Case	Weight
CNZLA	----



Intertek

Intertek

ENGINEERED FOR STORES WITH AMBIENT CONDITIONS NOT TO EXCEED 75° AND 55% RELATIVE HUMIDITY. DUE TO ENGINEERING IMPROVEMENTS SPECIFICATIONS MAY CHANGE WITHOUT NOTICE. ALL MEASUREMENTS ARE TAKEN PER ASHRAE-72 SPECIFICATIONS. HILLPHOENIX REFRIGERATED DISPLAY CASES FOR SALE IN THE UNITED STATES MEET OR EXCEED DEPARTMENT OF ENERGY 2017 REQUIREMENTS. NUMBERS ARE BASED ON STANDARD CASE SIZES. CONSULT ENGINEERING.

CNZLA

Rev. Date	Rev. #	Rev. Title
03-17-23	1	DATA UPDATE
08-10-22	0	NEW STANDARD

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CNZLA

4', 7', & 8' Coldwall R290 Merchandiser
Beverage/Dairy/Meat/Frozen Food/Ice Cream

SYSTEM REQUIREMENTS

Case Length	Overall Size	Volts	Frequency (Hz)	Phase	Plug*	TLA	MCA	MOP	Product Weight (lbs)	Gross Weight (lbs)
4'	56.7" x 34.5" x 36.6"	120	50/60	1	NEMA 5-15	5.1	6.4	15	210	276
7'	84.8" x 34.5" x 36.6"	120	50/60	1	NEMA 5-15	10.3	12.9	15	298	362
8'	98.7" x 34.5" x 36.6"	120	50/60	1	NEMA 5-15	10.9	13.7	15	364	430

GUIDELINES AND CONTROL SETTINGS

Application	Set Point St (°F)	Defrost Termination Temp (°F)	Defrost Interval (hr)	Fail Safe (Min)
Dairy	39	50	24	10
Meat	36	50	24	10
Frozen Food	5	50	24	10
Ice Cream	- 9	50	24	10

24hr Energy

Case Length	Application	(kWh)
4'	Dairy, Meat	1.3
4'	Frozen Food, Ice Cream	2.7
7'	Dairy, Meat	2.0
7'	Frozen Food, Ice Cream	3.6
8'	Dairy, Meat	2.5
8'	Frozen Food, Ice Cream	4.1

CONDENSING UNIT DATA

Case Length	Volts	Phase	Hysteresis (Min)	Max Capacity (hp)	Running Load Amps (RLA)	Locked Rotor Amps (LRA)	Refrigerant	Refrigerant Charge (grams)	Noise Limit (dBA)
4'	120	1	2	0.75	7	Electronic Cut Off	R290	120	60
7'	120	1	2	1.25	7	Electronic Cut Off	R290	140	60
8'	120	1	2	1.25	7	Electronic Cut Off	R290	150	60

LIGHTING DATA

Case Length	Lights per case	Amps	Watts
4'	1	0.08	10
7'	2	0.11	13.5
8'	2	0.12	15

NOTES:

- "---" indicates that feature is not an option on this case model and/or the data is not yet available.
- Minimum clearance for single unit installation = 3.9" (100mm).
- Minimum clearance for island arrangement: Rear = 5.5"; Side = 0".
- NEMA L5-15P locking plug available upon request.



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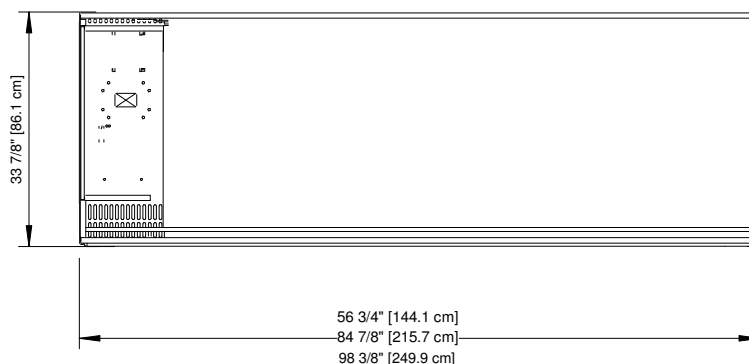
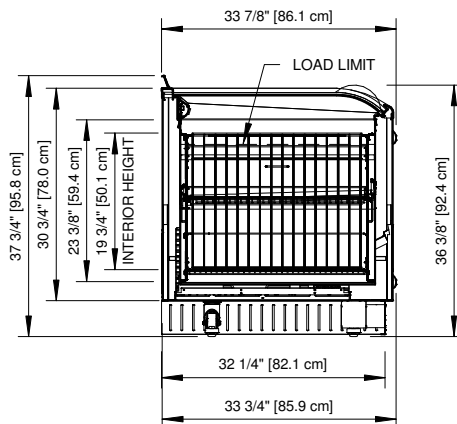
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Beverage/Dairy/Meat/Frozen Food/Ice Cream



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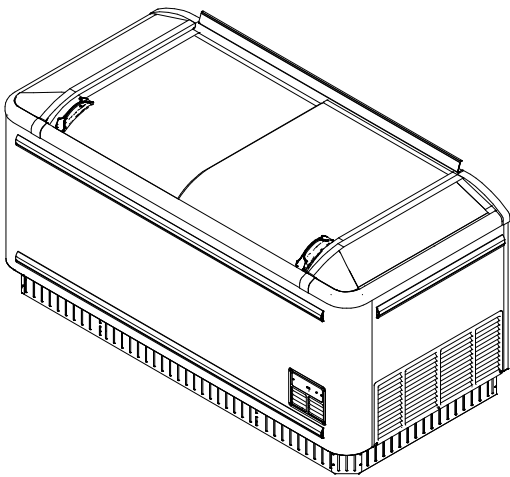
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CNEZLA

Endcap Case Coldwall R290 Merchandiser
Beverage/Dairy/Meat/Frozen Food/Ice Cream

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SHIPPING WEIGHT	
Case	Weight
CNEZLA	----



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CNEZLA

Endcap Case Coldwall R290 Merchandiser
Beverage/Dairy/Meat/Frozen Food/Ice Cream

SYSTEM REQUIREMENTS

Case Length	Overall Size	Volts	Frequency (Hz)	Phase	Plug*	TLA	MCA	MOP	Product Weight (lbs)	Gross Weight (lbs)
6'	73.6" x 34.5" x 36.6"	120	50/60	1	NEMA 5-15	5.9	7.4	15	262	321

GUIDELINES AND CONTROL SETTINGS

Application	Set Point St (°F)	Defrost Termination Temp (°F)	Defrost Interval (hr)	Fail Safe (Min)
Dairy	39	50	24	10
Meat	36	50	24	10
Frozen Food	5	50	24	10
Ice Cream	-9	50	24	10

24hr Energy

Case Length	Application	(kWh)
6'	Dairy, Meat	1.6
6'	Frozen Food, Ice Cream	3.1

CONDENSING UNIT DATA

Case Length	Volts	Phase	Hysteresis (Min)	Max Capacity (hp)	Running Load Amps (RLA)	Locked Rotor Amps (LRA)	Refrigerant	Refrigerant Charge (grams)	Noise Limit (dBA)
6'	120	1	2	0.75	7	Electronic Cut Off	R290	132	60

LIGHTING DATA

Case Length	Lights per case	Amps	Watts
6'	2	0.10	13

NOTES:

- "---" indicates that feature is not an option on this case model and/or the data is not yet available.
- Minimum clearance for single unit installation = 3.9" (100mm).
- Minimum clearance for island arrangement: Rear = 5.5"; Side = 0".
- NEMA L5-15P locking plug available upon request.



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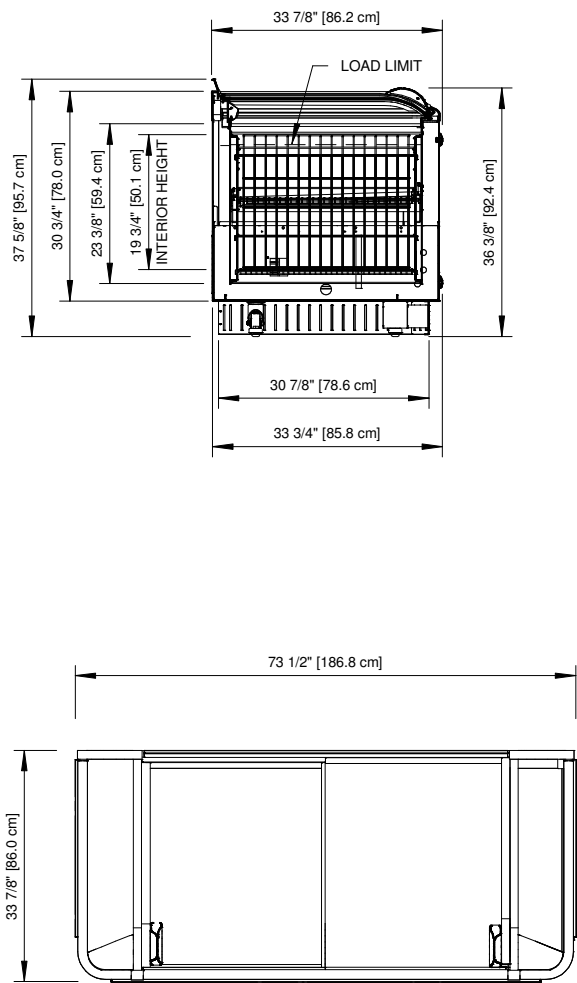
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GENERAL INFORMATION

Thank you for choosing Hillphoenix for your food merchandising needs. This handbook contains important technical information and will assist you with the installation and operation of your new Hillphoenix cases. By closely following the instructions, you can expect peak performance; attractive fit and finish; and long case life.

We are always interested in your suggestions for improvements (e.g. case design, technical documents, etc.). Please feel free to contact our Marketing Services group at the number listed below. Thank you for choosing Hillphoenix, and we wish you the very best in outstanding food merchandising.

CASE DESCRIPTION

This manual specifically covers the CNZLA and CNEZLA (R-290) deli, meat, frozen food and ice cream application self-service single-deck merchandiser with sliding doors.

STORE CONDITIONS

Hillphoenix cases are designed to operate in an air-conditioned store that maintains a 75°F (24°C) store temperature and 55% (max) relative humidity (ASHRAE conditions). Case operation will be adversely affected by exposure to excessively high ambient temperatures and/or humidity.

REFRIGERATION SYSTEM OPERATION

Air-cooled condensing units require adequate ventilation for efficient performance.

THIS UNIT CONTAINS R-290 FLAMMABLE REFRIGERANT. USE CAUTION WHEN HANDLING, MOVING OR SERVICING THE DISPLAY CASE. AVOID DAMAGING THE REFRIGERANT TUBING WHICH COULD INCREASE THE RISK OF A LEAK.

SHIPPING CASES

Transportation companies assume all liability from the time a shipment is received by them until the time it is delivered to the consumer. Our liability ceases at the time of shipment.

RECEIVING CASES

Examine fixtures carefully and in the event of shipping damage and/or shortages, please contact the Service Parts Department at the number listed below.

CASE DAMAGE

Claims for obvious damage must be 1) noted on either the freight bill or the express receipt and 2) signed by the carrier's agent; otherwise, the carrier may refuse the claim. If damage

becomes apparent after the equipment is unpacked, retain all packing materials and submit a written request to the carrier for inspection within 14 days of receipt of the equipment.

Failure to follow this procedure will result in refusal by the carrier to honor any claims with a consequent loss to the consumer.

If a UPS shipment has been damaged, retain the damaged material, the carton and notify us at once. We will file a claim.

LOST/MISSING ITEMS

Equipment has been carefully inspected to insure the highest level of quality. Any claim for lost/missing items must be made to Hillphoenix within 48 hours of receipt of the equipment. When making a claim please use the number listed below.

SERVICE PARTS & TECHNICAL SUPPORT

For service parts questions regarding our cases, please contact our Service Parts Department at 1-844-HPX-PART (1-844-479-7278) or dfr-caseclaims@dooverfoodretail.com (warranty claim group) and dfr-orderparts@dooverfoodretail.com (non-warranty claim group). *For parts choose your language, then select option 1 for Case Division Parts.*

For technical questions regarding our cases, please contact our Technical Support Department at 1-833-280-5714. *For Technical Support select option 2, then once in that menu, select option 1 for the Main Case Division.*

CONTACTING THE FACTORY

If you need to contact Hillphoenix regarding a specific fixture, be certain that you have both the case model number and serial number. (This information can be found on the data tag, located at the top-left interior, rear exterior panel or interior rear lower storage of the case. *Location may vary based on case design.*)

Hillphoenix
1925 Ruffin Mill Rd
Colonial Heights, VA 23834
Website: www.hillphoenix.com

UNITIZATION ASSEMBLY KITS

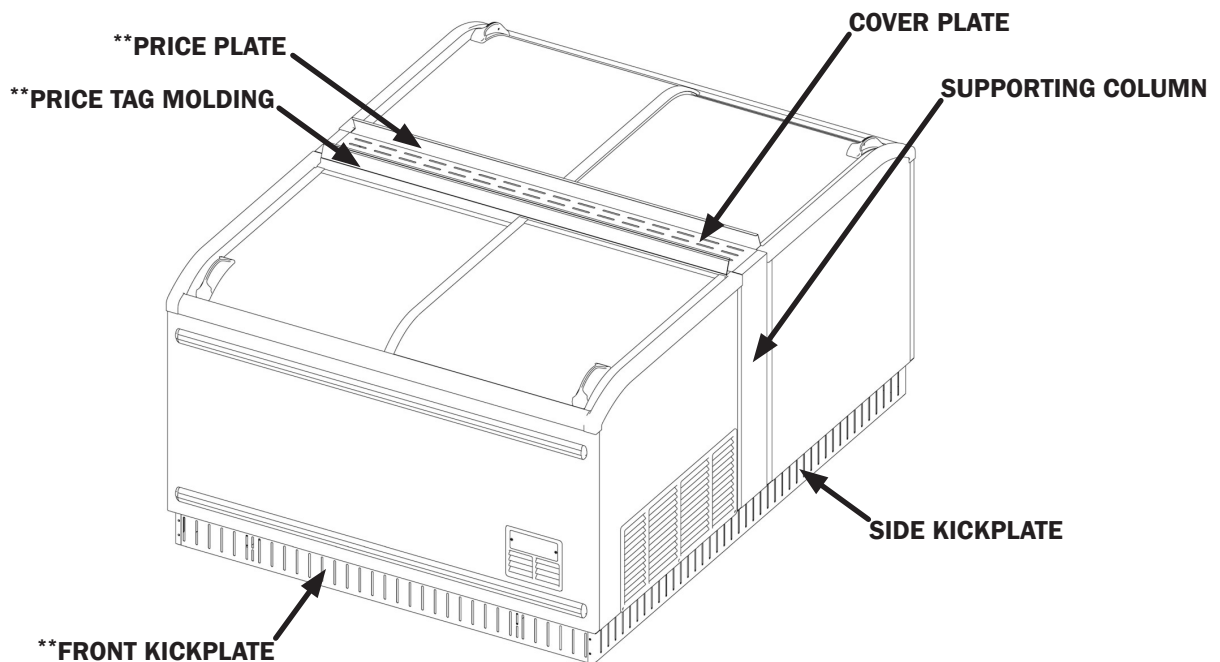
CLOSE OFF PANEL KIT (GRAY 4')				
HPX P/N	ITEM	QNTY	DESCRIPTION	COLOR
P116702CGY	4.1	10	Flange Hexagon Bolt, M6x16	---
	3.3	2	Front Kickplate Linking Plate, IHF-0D2209PB	Gray
	1.5	1	Cover Plate, IHF-D1509PB	Gray
	*1.3	2	Middle Cover Plate, IHFD2209PB	Gray
	1.4	1	Case Connecting Cover, IHF-D2209PB	Gray
CLOSE OFF PANEL KIT (WHITE 6' END)				
HPX P/N	ITEM	QNTY	DESCRIPTION	COLOR
P116707CGY	---	5	Flange Hexagon Bolt, M6x16	---
	1.1	1	Supporting Column, IHF-D2209PB	Gray
CLOSE OFF PANEL KIT (GRAY 7')				
HPX P/N	ITEM	QNTY	DESCRIPTION	COLOR
P116710FGY	4.1	10	Flange Hexagon Bolt, M6x16	---
	3.3	2	Front Kickplate Linking Plate, IHF-D2209PB	Gray
	1.2	1	Cover Plate, IHF-D2209PB	Gray
	*1.3	2	Middle Cover Plate, IHF-D2209PB	Gray
	1.4	1	Case Connecting Cover, IHF-D2209PB	Gray
CLOSE OFF PANEL KIT (GRAY 8')				
HPX P/N	ITEM	QNTY	DESCRIPTION	COLOR
P116713MGY	4.1	10	Flange Hexagon Bolt, M6x16	---
	3.3	2	Front Kickplate Linking Plate, IHF-D2209PB	Gray
	1.6	1	Cover Plate, IHF-D2509PB	Gray
	*1.3	2	Middle Cover Plate, IHF-D2209PB	Gray
	1.4	1	Case Connecting Cover, IHF-D2209PB	Gray
SIDE CLOSE OFF KIT (GRAY/GRAY)				
HPX P/N	ITEM	QNTY	DESCRIPTION	COLOR
P116714HGY	3.2	1	Side Kickplate IHF-D2209PB	Gray
	1.1	1	Supporting Column, IHF-D2209PB	Gray
	4.2	5	Flange Hexagon Bolt, M6x16	---
SIDE CLOSE OFF KIT (GRAY/WHITE)				
HPX P/N	ITEM	QNTY	DESCRIPTION	COLOR
P116714HWH	3.2	1	Side Kickplate, IHF-D2209PB	Gray
	1.1	1	Supporting Column, IHF-D2209PB	White
	4.2	5	Flange Hexagon Bolt, M6x16	---

REFERENCE DIAGRAMS ON FOLLOWING PAGES (CONT'D)

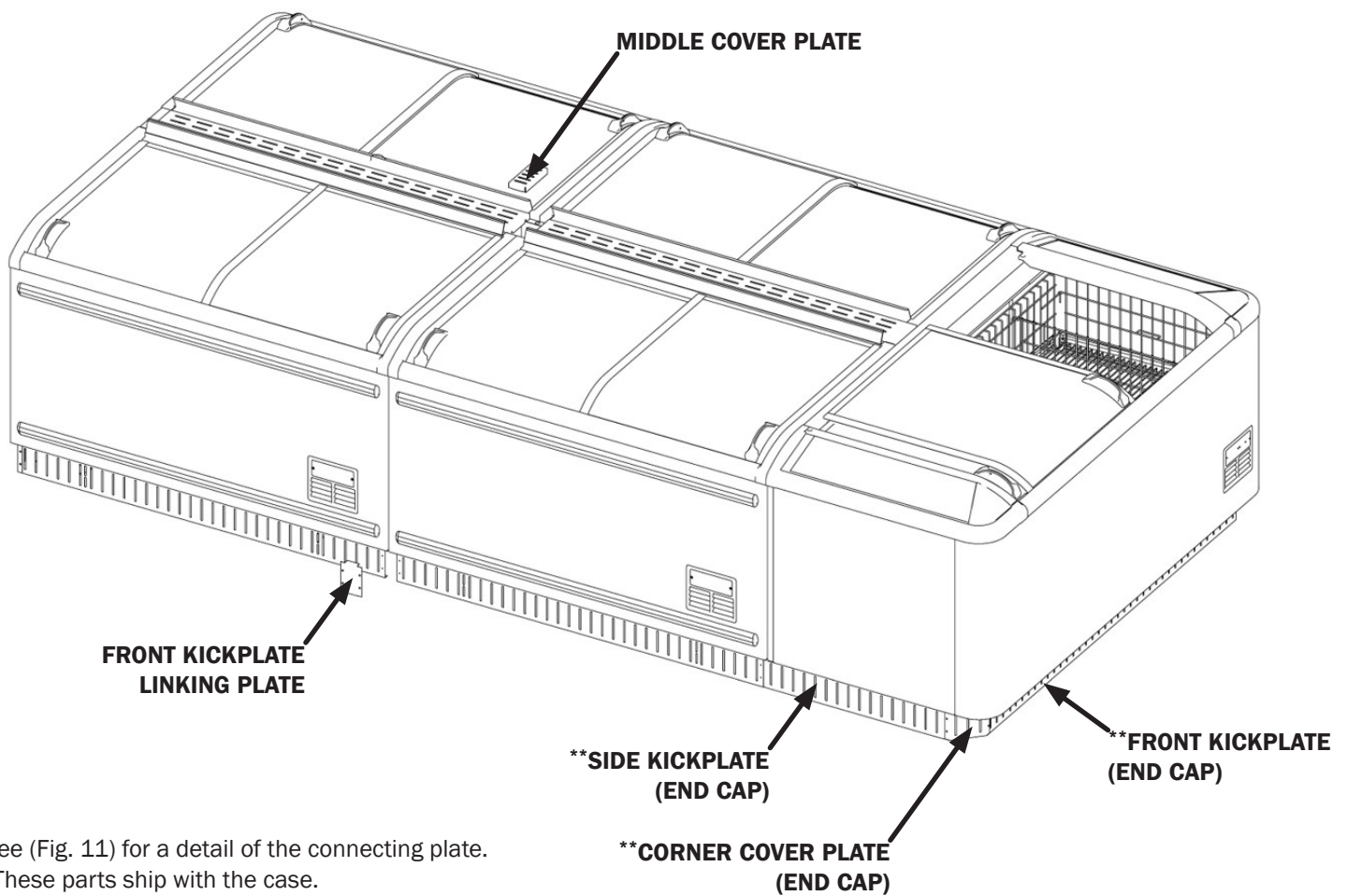
* See (Fig. 11) for a detail of the connecting plate.

CASE INSTALLATION

BACK-TO-BACK ASSEMBLY (DIAGRAM 1)



BACK-TO-BACK ASSEMBLY W/ END CAP ASSEMBLY (DIAGRAM 2)



* See (Fig. 11) for a detail of the connecting plate.

** These parts ship with the case.

LOCATION

This refrigerated display case has been designed for displaying and storing perishable food product. It is engineered for air-conditioned stores with a maximum ambient of 75 °F and 55% relative humidity.

When selecting the location for placement of this case, avoid the following conditions:

Excessive Air Movement

1. Doors
2. Air-conditioned vents
3. Other air sources

Excessive Heat

1. Windows
2. Sun
3. Flood lamps 8 feet or less from the product
4. Other heat sources

FLOOR PREP

1. Ask the general contractor if your current copy of the building dimensions are the most recently issued. Also, ask for the points of reference from which you should take dimensions to locate the cases.
2. Using chalk lines or a laser transit, mark the floor where the cases are to be located for the entire lineup. The lines should coincide with the outside edges of the case feet.
3. Move case as close as possible to its permanent location. Remove all crating and shipping braces above the shipping pallet. Loosen the plastic dust cover from the pallet, but leave cover over the case to protect it while removing the case from the pallet.
4. The power cord shipping brace can be removed with a screw gun if attached to the pallet. Otherwise, the power cord is attached to the case with a zip tie and needs to be removed carefully.
5. Carefully, if horizontal supports, lift case up and off the pallet. Remove dust cover. Check for loose components in the packaging. Do not dispose of loose components. If it cannot be determined where the loose components belong, call Hillphoenix technical support. (Hillphoenix self-contained display cases are sometimes designed with casters. In most situations, one or two persons can easily move the case into position.) If there are casters simply roll them on to the store floor to the proper staging area. First remove all crating then all sled runner, caster, and/or power cord shipping braces. (Dependent on case design.)
6. Leveling is necessary to ensure proper operation of the refrigeration system and drainage of the condensate. Locate the highest point on the positioning lines as a reference for determining levelers. A laser transit is recommended for precision and requires just one person.

When in final position level adjustable feet (Fig. 1 & 2) as needed so that the casters are not engaged to the floor. To do so, first rotate the nut at the adjustable feet counterclockwise. Turn feet until engaged to the floor and the casters no longer make contact to the ground.

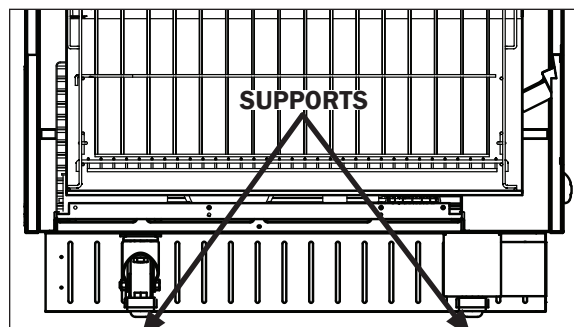


Fig. 1 Vertical supports



Fig. 2 Adjustable leveling feet and casters

Note: Avoid contact with the castors under the case when using a forklift to move the case.

CAUTION

Failure to properly level the case could result in lack of proper condensation drainage leading to failure of the unit.

7. (CASTERS/BULLET LEGS) If necessary, attach two brackets at two separate corners of the case (Fig. 3) and fasten to the floor with concrete anchors. Prior to attaching brackets be sure to turn the power OFF to the case and unplug power cord.

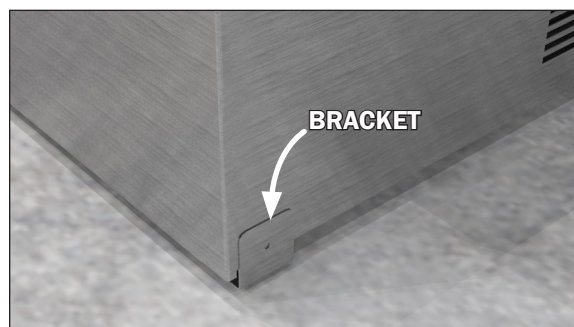
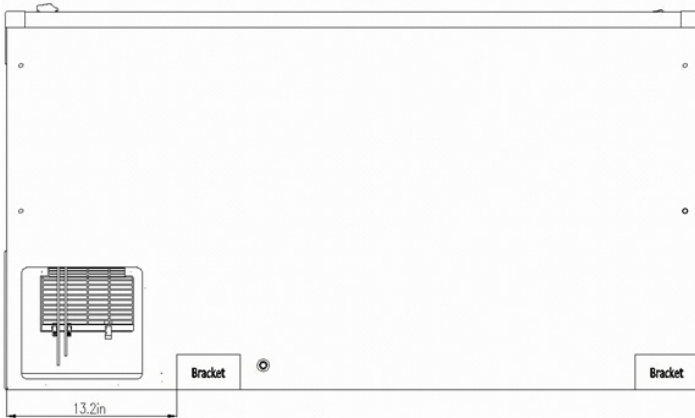


Fig. 3 Seismic anchoring (brackets)

8. The brackets need to be affixed in the exact locations specified here (below) due to the R-290 case design components inside the case. Be sure that at least two

CASE INSTALLATION

brackets are used, one at each corner.



DANGER

FLAMMABLE

DANGER - Risk of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing.



DANGER

SHOCK HAZARD

Always disconnect power to case when cleaning, servicing or configuring components. Failure to do so may result in serious injury or death.

CAUTION

Locate the horizontal or vertical (caster) supports under unit before removing from pallet. Failure to do so will damage the finished metal if correct lift points are not identified prior to removal.

CAUTION

These cases are not designed for excessive external weight. Do not walk on top or inside of cases. Doing so may result in case damage and/or personal injury.

LINE-UP & INSTALLATION

Single Case

1. Remove any loose items from the cases that may interfere

with case joining. Keep all loose items as they will be used later in the installation process.

2. Move the case into position. The case has a two lane pallet with connecting strips and enforcement steel panels.
3. Use a (philips) to remove the screws on each of the steel panels at each corner of the pallet. After the steel panels are removed pull away the connecting strips (Fig. 4) at each pallet side. Insert pallet jack or fork lift at the gap left by the connecting strips, turn up the case and take away the two side/end pallets. Repeat as needed.

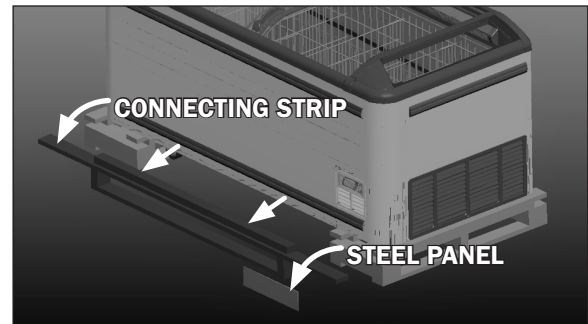


Fig. 4 Remove connecting strip

WARNING

Be certain that your hands and feet are out of the way before lowering the case. Failure to do so may result in serious injury.

4. Once the case is properly placed check the vertical plumb of the case by placing a bubble level on the rear wall. For the horizontal level, repeat this process after placing the bubble level on the front sill.
5. Install the bumper, if applicable, into pre-attached bumper track and snap into place. (Most self-contained cases ship with bumper pre-installed.)
6. Install the kickplate fixing plate according to the position shown in the figure, and use the screws delivered with the product, with the specifications of ST4.2 x 13.
7. Install the front kickplate (Fig 5). The specification of the screw is the same as that mentioned above. Fix the right side first.

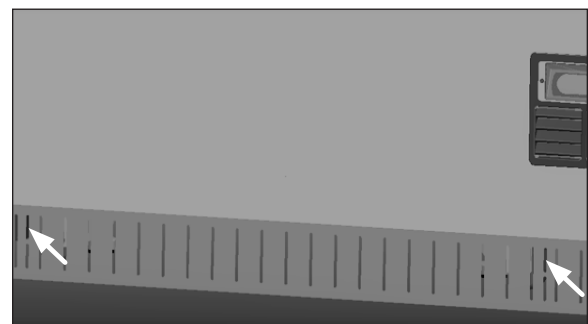


Fig. 5 Front kickplate install

8. Install the side skirting board (Fig. 6).

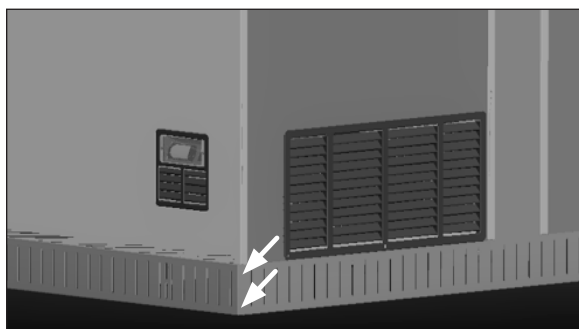


Fig. 6 Side skirting board corner connections

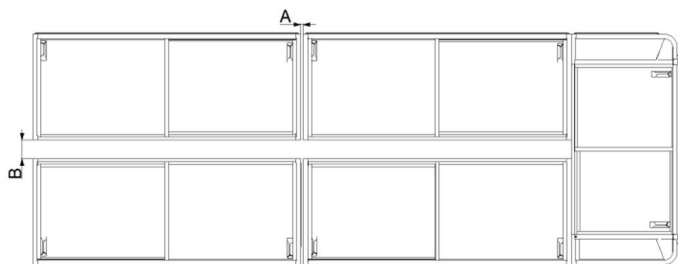
9. Use the front kickplate linking plate to fix the front and side kickplate.

CAUTION

Do not obstruct ventilation around the base of the display case condensing unit. Obstructing could cause the case to not operate correctly and failure to maintain product temperatures.

Multi-Case

1. Follow the single-case installation instructions 1 - 5 then position the next case in the line-up approximately 3' away.
2. **Due to congestion of the warm exhaust air (heat accumulation). The front, rear and undercase air vents of the unit must not be covered for island arrangement.**
3. **An end case will butt against the ends of the straight cases with a 0" gap. Note: Exhaust on side of end cases.**
 - a) The exhaust air must be able to escape freely at the backside of the unit.
 - b) Minimum distance for single unit installation
All Around = 3.9 in
 - c) Minimum distance for island arrangement
A = 0 in B = 5.5 in



4. Install the screws supplied at the rear of the case with the equipment in the frame selected part of the diagram (Fig. 7). The bolt specification is m6 x 16. The screws don't need to be tightened for the time being.

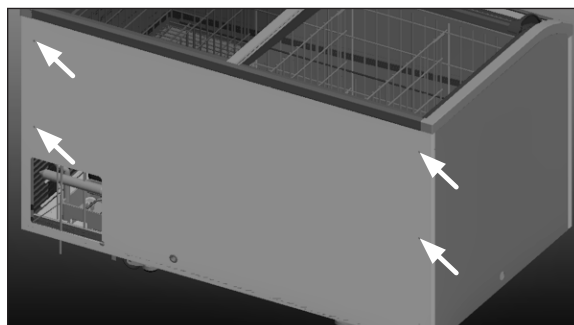


Fig. 7 Frame screw locations at rear of case

5. Insert the column (Fig. 8) into the screw installation position, one on the left and one on the right.

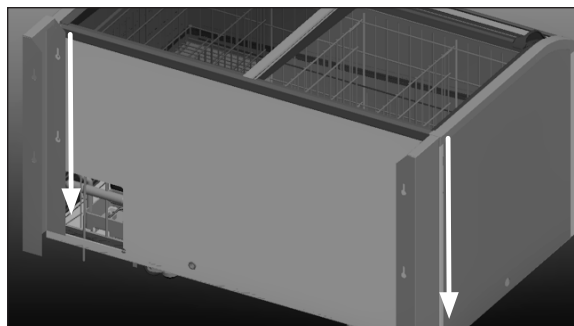


Fig. 8 Insert columns onto screws

6. Place the showcase back-to-back, lift the column, and connect the two cases together (Fig. 9).

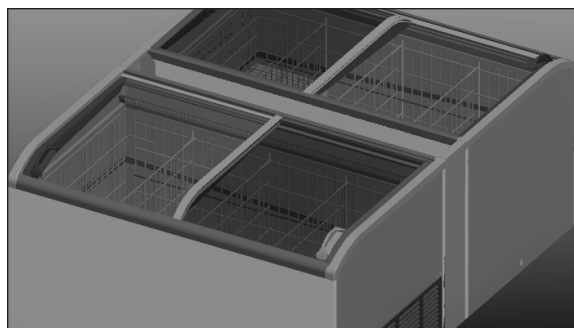


Fig. 9 Back-to-back column connection

7. Place the cover plate at the middle of the two cases, as shown here (Fig. 10). Hardware is not required for this step. **Note: Do not merchandise on top of the cover plate as this will restrict the air exhaust.**

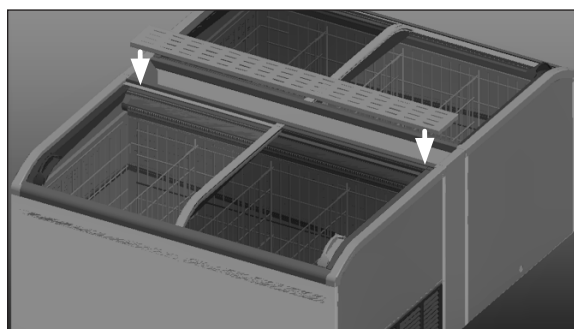


Fig. 10 Placing cover plate

CASE INSTALLATION

8. If more than two cases need to be spliced in a line-up, install the connecting plate according to the position (Fig. 11) after the two cases are placed.

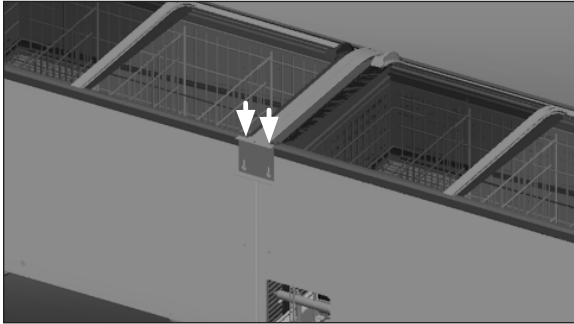


Fig. 11 Connecting plate for line-up

9. Repeat steps for case splicing as needed and put the middle cover plate down in the middle when ready (Fig. 12).

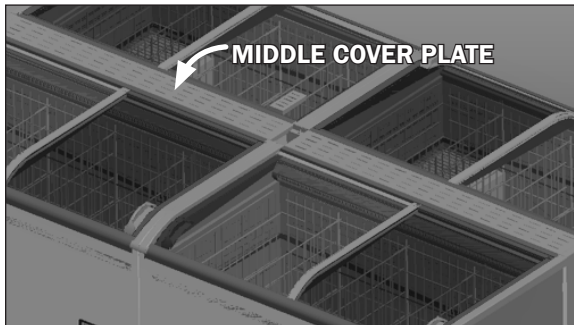


Fig. 12 Middle cover plate

10. Install the kickplate fixing plate according to the position (Fig. 13) and use the screws delivered with the product, with the specifications of ST4.2 x 13.

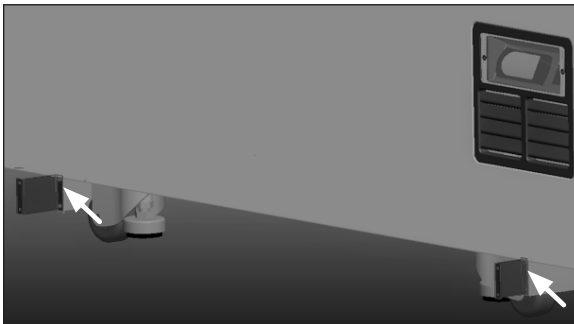


Fig. 13 Kickplate fixing plate

11. Install the front kickplate with the fixing plates at the top of each two double cutouts depicted (Fig. 14). The specification of the screw is the same as that mentioned above. Fix the right side first.

12. Install the side skirting board at each connecting corner (Fig. 15). Two screws at each corner. **Note: Pre-install the corner kickplate. If the adjoining case is an end case be sure to next attach the corner kickplates (Fig. 16) to the**

end of the side skirting board kickplate (Fig. 14).

13. If there is an end cap case, fix the front and corner kickplates together with screws (Fig. 16).

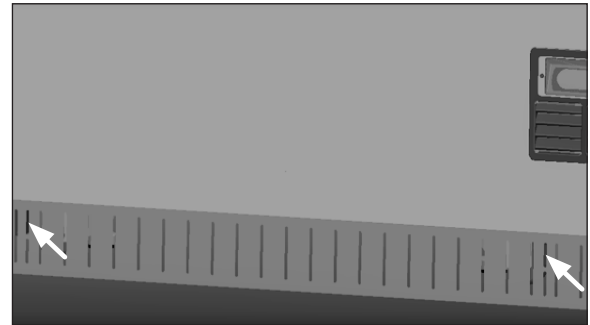


Fig. 14 Front kickplate install



Fig. 15 Side skirting board corner connections

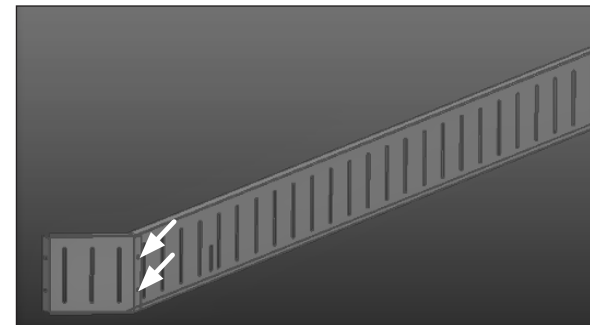


Fig. 16 End cap front and corner kickplate connections

14. Use the front kickplate linking plate to fix the front and side kickplate (Fig. 17).

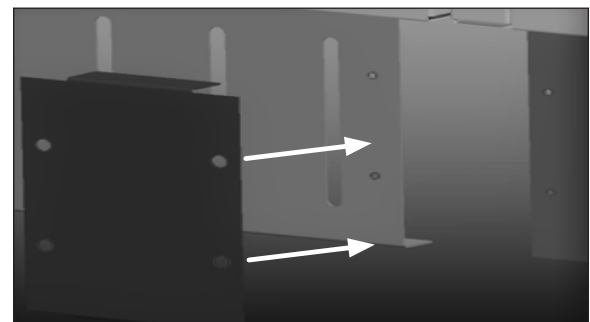


Fig. 17 Kickplate linking plate

15. If there are more than two groups of cases that need to be

spliced in a line-up, install the kickplate linking plate after the front skirting board is fixed.

16. Repeat steps of this sequence for all remaining cases. Be certain to properly level all cases.
17. Install the price tag molding using double sided sticky tape. Do not use hardware to install the tag molding as this will interfere with the assembly of the center cover panel.



CAUTION

Installation of 3rd-party materials may result in diminished case performance.

Adjustable wire racks

The wire racks inside of the case(s) have four available heights when including the base. First cut the zip ties holding the

racks in place for shipping, then adjust the level of the wire rack by using the side racks for placement (Fig. 18).

Note: Do not use the highest available point (Fig. 18) as this height exceeds the load limit line for product.



Fig. 18 Adjustable wire racks and zip ties

ADJUSTABLE WIRE WRACK POSITIONS

WIRE RACK POSITION	HEIGHT OF RACK FROM TANK BOTTOM "A"	MERCHANDISING HEIGHT RACK TO LOAD LIMIT LINE "B"
Base (Bottom)	1-13/16"	18-5/16"
2nd Height	7-1/4"	12-7/8"
3rd Height	12"	8-1/8"
4th Height	17"	3-1/8"

CASE CONNECTIONS

ELECTRICAL

This case has a NEMA 5-15P plug (locking NEMA-15P plug when applicable) that will need to be connected. **Note: The locking NEMA L5-15P plug can replace the standard NEMA 5-15P plug via the connector disconnect that is found in the condensing unit compartment on the customer right hand side of the case.**

The case must be grounded. *For more detailed electrical wiring information (see Appendix A1).*

Power Cord Locking L5-15P

Prior to plugging in and starting up the case always check the data tag located on the outside back panel of the case, as well as the voltage label found on the main power cord (if applicable) which can be found at the rear base panel. **Note: Check that the voltage of the receptacle you are going to use for power and the voltage required for the case match.**

CAUTION

Prior to plugging in and starting up the case.

Be certain that the voltage of the receptacle you are going to use and the voltage required for the case match. Failure to do so may result in case/system damage.

Cord Replacement (5-15P to L5-15P)

Prior to replacing the power cord and plug, be sure to **DISCONNECT POWER** to the case before proceeding. The power can be disconnected at the main panel breaker in the building. Just turning **OFF** the case with the main power switch will **NOT** disconnect power coming to the case. **Note: The front control panel has a clear cover to help protect against accidental access to switches. The controls can be accessed by use of a tool put through the provided holes in the cover.**

To replace the standard 5-15P cord with the locking cord L5-15P in the field it is a quick disconnect of the connector and ground terminal (Fig. 20) within the CDU compartment; accessed from the rear air grill.

DANGER

CAUTION, RISK OF ELECTRIC SHOCK. Prior to replacing the power cord and plug, be sure to **DISCONNECT POWER WITH THE MAIN PANEL BREAKER** to the case, before proceeding.

CAUTION

Be certain that all electrical connections are compliant with local codes.



DANGER

CAUTION, RISK OF ELECTRIC SHOCK. If the cord or plug becomes damaged, replace only with a cord and plug of the same type.

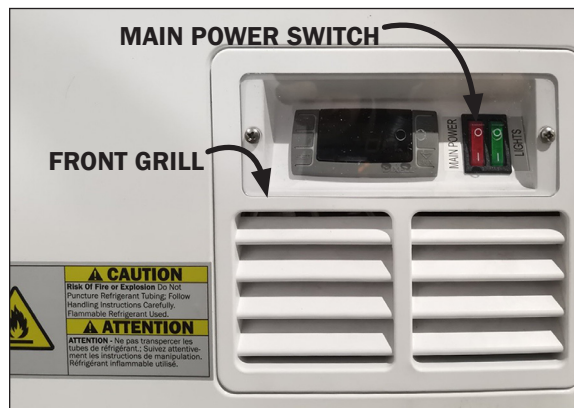


Fig. 19 Front panel grill & power switch

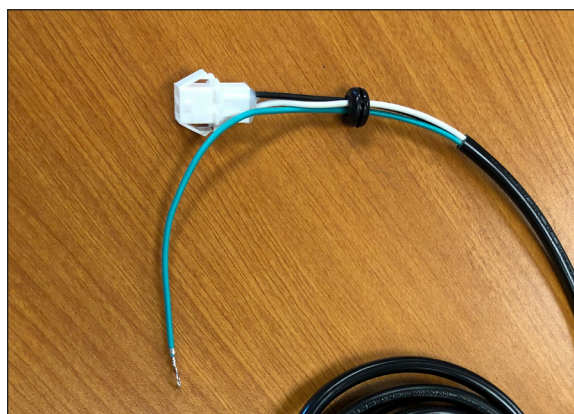


Fig. 20 Connector and ground terminal

REFRIGERATION & COMPRESSOR COMPARTMENT

A bottom mounted compressor compartment (Fig. 21) can be accessed by removing the lower rear panel. See *Appendices for full instructions on how to program the Dixell electronic controller.*

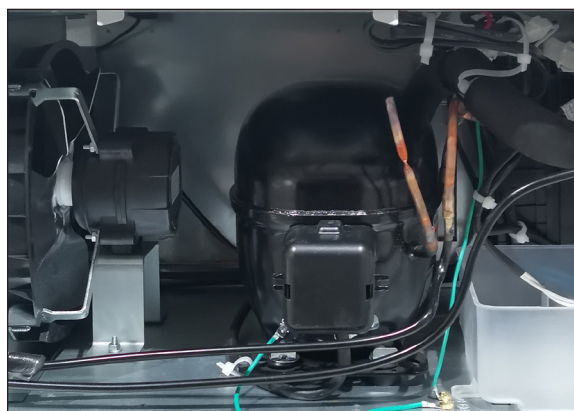


Fig. 21 Compressor compartment

Access locations and/or R-290 compartment configurations will vary based on case design. See page 18 for a compressor compartment diagram.

CAUTION

Be sure to remove all Styrofoam shipping blocks from piping and refrigerant lines. Failure to do so may result in case damage.

Temperature Probe Connections

1. The top probe is for defrost temperature and the bottom probe is the case temperature (Fig. 22).

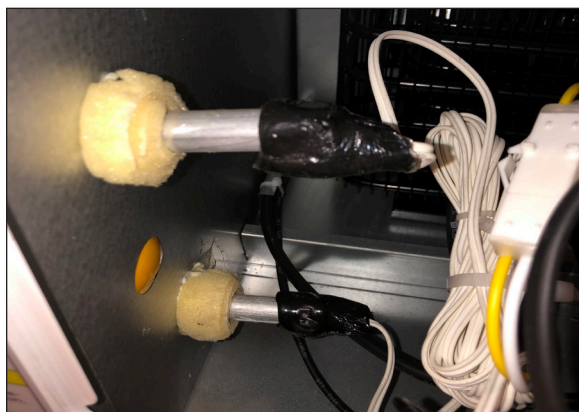


Fig. 22 Temperature probe connections

Electronic Cutoff

The CNZLA/CNEZLA compressors have an electronic cutoff mechanism such that the LRA (Locked Rotor Amps) has zero (0) amp draw after 4 seconds when the rotor becomes locked.

Power Supply & Light Switch

1. After the main power cord located at the base panel of the case is plugged in and the power switch (Fig. 23) flipped to ON the case should begin normal operations.
2. After establishing power the light control switch (Fig. 23) (if applicable) located on the exterior front panel can be flipped to the ON position. The case should now be fully operational and all lights functioning when in the ON position (if applicable).
3. **Note: The front control panel has a clear cover to help protect against accidental access to switches. The controls can be accessed by use of a tool put through the provided holes in the cover.**

DANGER

When carrying out maintenance tasks inside the refrigerated case or compressor compartment, it is essential to disconnect the power source to the case from the main power.

DANGER

ALWAYS CHECK THE THERMOSTAT CURRENT RATING. It may have a limited current, as low as 2A. If necessary protect digital thermostat contacts with a contractor.

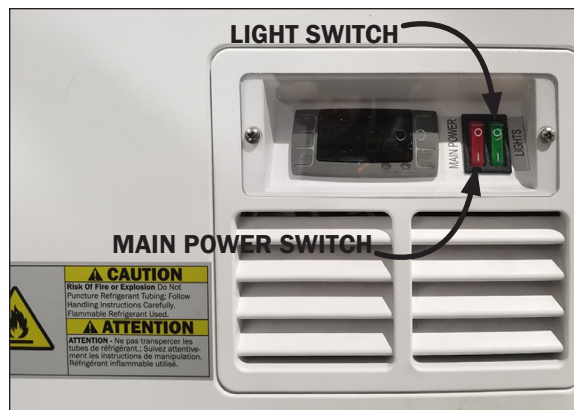
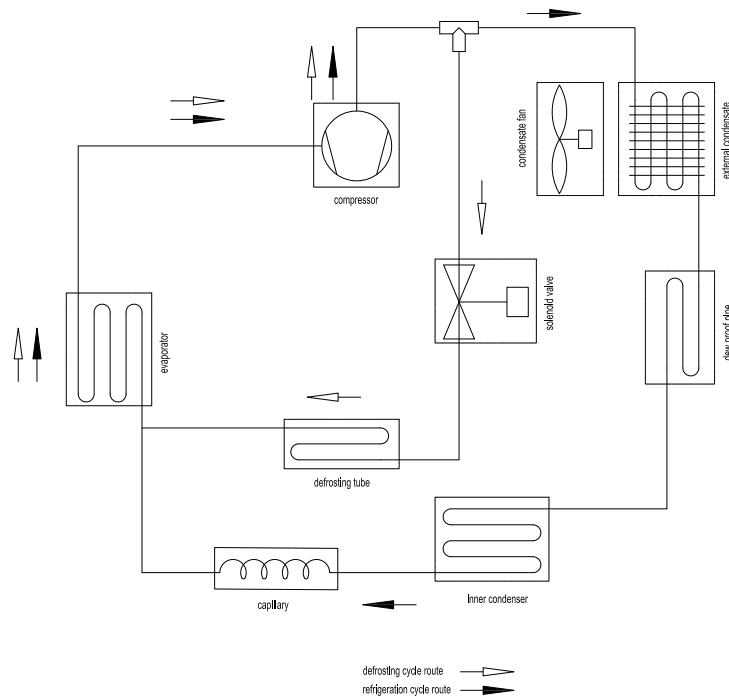
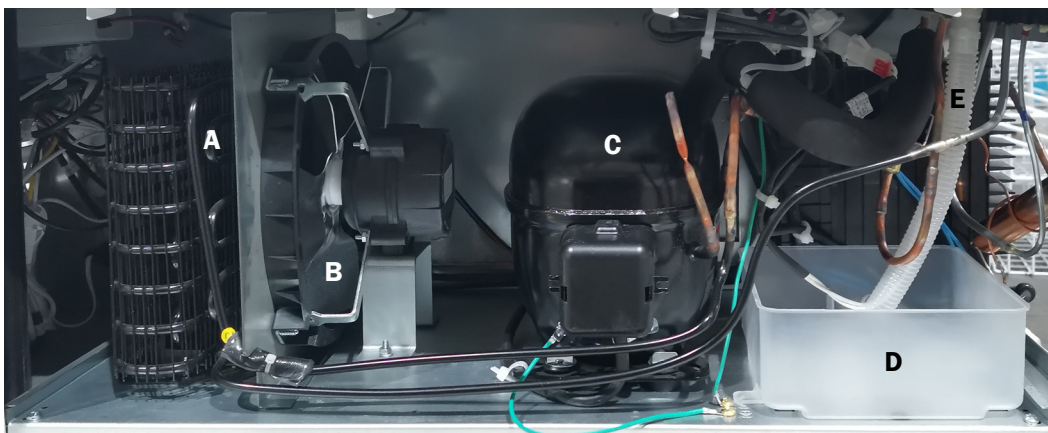


Fig. 23 Front panel power and light switch



CASE CONNECTIONS

R-290 COMPRESSOR COMPARTMENT DIAGRAM



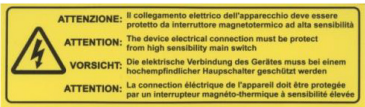




A	Condenser Coil	C	Compressor	E	Drain
B	Condenser Fan	D	Condensate Tray		




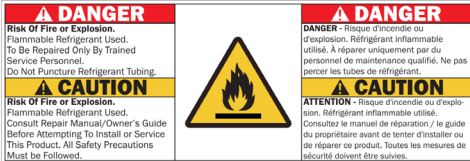
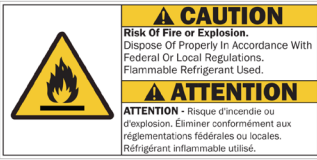
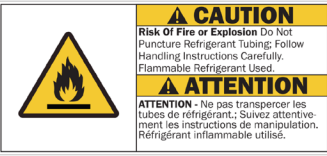

Note: Access locations and/or compartment configurations will vary based on case design.

SAFETY LABELS

Inspect the refrigerated display case and ensure all safety warnings/information applied on the refrigerated case are not removed. Any labels removed must be replaced. The following signs are applied:

Warning #.	Description of Warning	Symbol/Information	Application
1.	ID Plate/Data Tag		Close to Field Wiring Box
2.	Danger: connect to an electrical system with a magneto-thermal cut-out		On Field Wiring Box
3.	Danger: connect to an electrical system with a magneto-thermal cut-out		On electrical panel. Power lead
4.	Danger: Do not lift. Disconnect electrical power first; do not use water jets directly; moving parts; disconnect electrical power.		On all fan holders
5.	Ground connection point.		On the electrical switch box.

SAFETY LABELS (CONT'D)

6.	Type label	ANSI/NSF-7 Type 1 Display Refrigerator intended for 75 °F/55%RH	Close to Field Wiring Box
7.	Intended use label	This equipment is intended for the storage of packaged products only	Close to Field Wiring Box
8.	Load limit		Inside/fixed and/or mobile
9.	Danger: Risk of fire or explosion. Flammable refrigerant used. Do not use mechanical devices to defrost refrigerator. Do not puncture refrigerant tubing.		Flammable locations
10.	Danger: Risk of fire or explosion. Flammable refrigerant used. Do not use mechanical devices to defrost refrigerator. Do not puncture refrigerant tubing.		Flammable locations/Case Exterior
11.	Danger: Risk of fire or explosion. Flammable refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing. Caution: Flammable refrigerant used. Consult repair manual/owner's guide before attempting to install or service this product. All safety precautions must be followed.		Near the Machine Compartment Nameplate
12.	Caution: Risk of fire or explosion. Dispose or properly in accordance with federal or local regulations. Flammable refrigerant used.		Exterior of Display Case
13.	Caution: Risk of fire or explosion. Do not puncture refrigerant tubing; follow handling instructions carefully. Flammable refrigerant used.		Exterior of Display Case
14.	Caution: Risk of fire or explosion. Due to flammable refrigerant used. Follow handling instructions carefully in compliance with U.S. government regulations.		Exterior of Display Case

LIGHTING & POWER SUPPLIES

GENERAL LIGHTING INFORMATION

Hillphoenix cases are equipped with LED luminaires.

The lighting system has an ON/OFF switch located on the front panel grille. **Should a power supply need to be removed and/or replaced, DISCONNECT POWER to the case before proceeding. The power can be disconnected at the main panel breaker in the building. Just turning OFF the case with the main power switch will NOT disconnect power coming to the case.** Once a case has been properly positioned in the store the lights may be turned on to verify that they are connected and functioning properly.

To ensure peak performance, it is advisable to run the lighting systems only when the store climate control is on and case refrigeration is started. **Note: It is highly recommended that the ambient store temperature not exceed 75°F.**



DANGER

SHOCK HAZARD

Always disconnect power to case when cleaning, servicing or configuring components of the lighting system. Failure to do so may result in serious injury or death.



WARNING

Using improper DC power supplies may damage the luminaires, resulting in sub-standard operation and increased chances of safety issues/injury.



WARNING

Never replace a 24V DC power supply with a T8 or T5 ballast of any kind! Ballasts use alternating current (AC) instead of direct current (DC) and operate at a much higher voltage than is used by this LED system. Doing so will damage the LED system and increases the chance of safety issues/injury.

LED DRIVER/POWER SUPPLY ACCESS

To gain access to the LED driver (Fig. 24) or power supplies remove the lower front panel grille.

REPLACING LED LIGHTS

Once store power is connected the LED system should operate without the need for any significant maintenance for several years. **Should a power supply need to be removed and/or replaced, DISCONNECT POWER to the case before proceed-**

ing. The power can be disconnected at the main panel breaker in the building. Just turning OFF the case with the main power switch will NOT disconnect power coming to the case. Be certain to replace the power supply with genuine Hillphoenix parts.

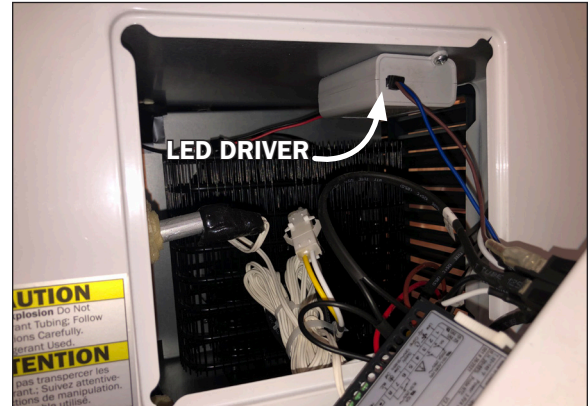


Fig. 24 LED driver behind front panel grille

LED LUMINAIRES/ADAPTER

Disassembling lampshades and LED luminaires:

1. First turn the power to the case OFF with the switch (Fig. 25) found at the front panel. **DISCONNECT POWER to the light before proceeding.**

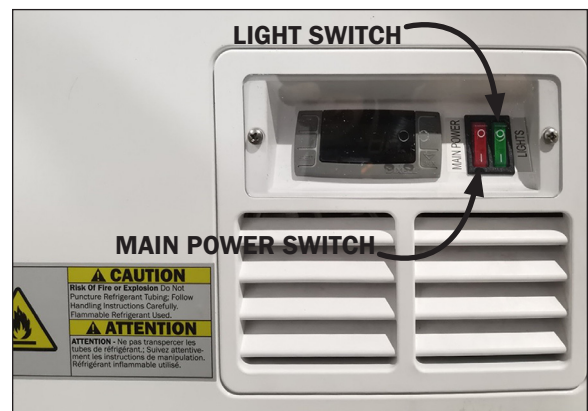


Fig. 25 Front panel power and light switch

2. Gently push in at the top of the lampshade until there is a small gap (Fig. 26) while at the same time using a slotted screwdriver (Fig. 27) to gently pry open the lampshade at the top of the shade.
3. Carefully, sliding horizontally while using your fingers loosen the top of the lampshade from left to right (Fig. 28) until the entire shade can be pulled out and away.
4. Once the lampshade is removed, unscrew the terminal wiring brackets (Fig. 29).

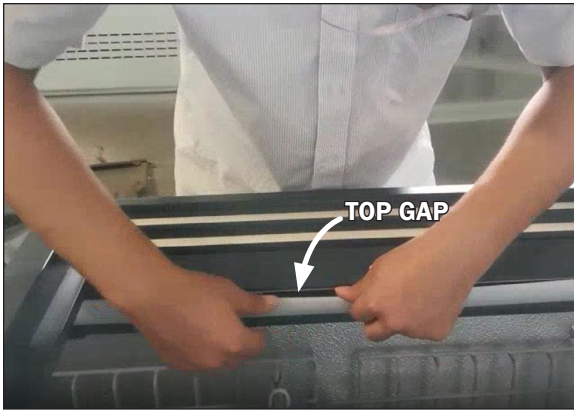


Fig. 26 Lampshade top gap

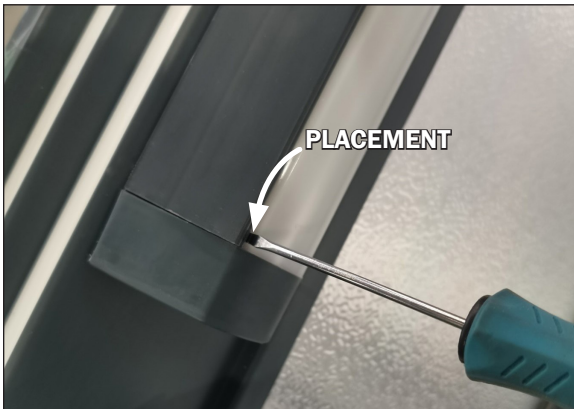


Fig. 27 Screwdriver placement at top



Fig. 28 Lampshade left to right removal

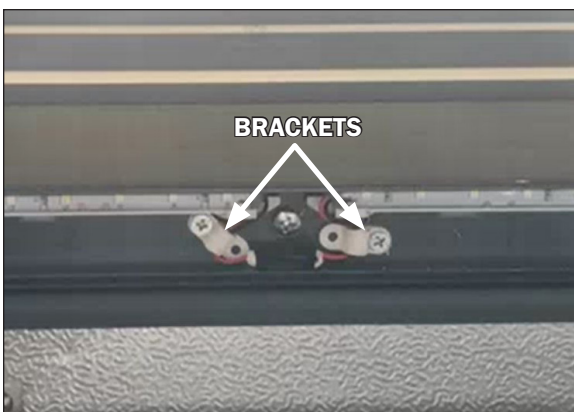


Fig. 29 Terminal wiring brackets

5. After the brackets are detached, the terminals (Fig. 30) can be unplugged and the LED light bar(s) separated from the clips (Fig. 31) running down the length of the bar.

Note: There will be multiple clips.



Fig. 30 Terminals to unplug

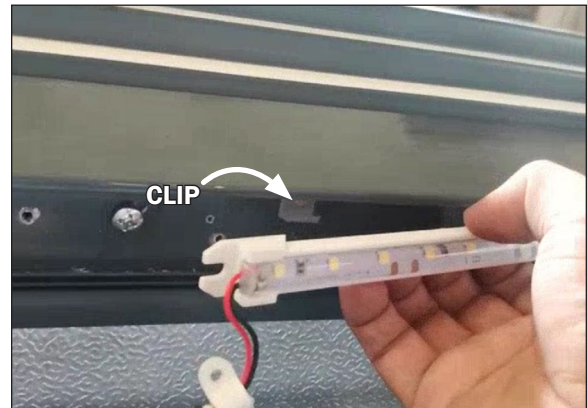


Fig. 31 LED light bar removal/clips

Reassembling lampshades and LED luminaires:

1. First turn the power to the case OFF with the switch (Fig. 25) found at the front panel. **DISCONNECT POWER to the case before proceeding. The power can be disconnected at the main panel breaker in the building. Just turning OFF the case with the main power switch will NOT disconnect power coming to the case.**
2. Follow steps 2-5 from the previous section covering the disassembly of the lampshades and LED luminaires.
3. Clip (Fig. 31) in the new LED light bar luminaires.
4. Plug in the terminals (Fig. 30).
5. Screw the terminal wiring brackets (Fig. 29) back in to place.
6. The lampshade (Fig. 28) will go back in next by gently placing it in the slotted bracket, along the bottom of the shade while moving down the shade left to right. Once the bottom of the lampshade is in position you will then move left to right again but this time carefully pressing the top portion of the shade back in to the slotted bracket that will hold it in place.

Disassembly of LED Driver:

1. First turn the power to the case OFF with the switch (Fig. 32) found at the front panel grill. **DISCONNECT POWER to the case before proceeding.** The power can be disconnected at the main panel breaker in the building. Just turning OFF the case with the main power switch will NOT disconnect power coming to the case.

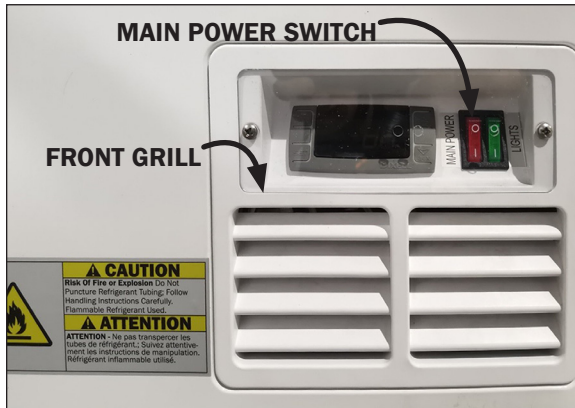


Fig. 32 Front panel grill & power switch

1. Once case power is OFF and POWER DISCONNECTED you can remove the grill. With a slim tool similar in width to a plastic card, place the tool in to the upper seam of the grill (Fig. 33.) While doing so push the tool in, then downward to disengage the snap features of the panel.



Fig. 33 Front panel removal

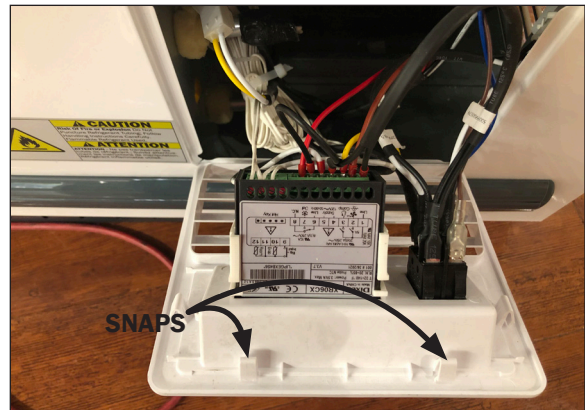


Fig. 34 Snap features and wiring

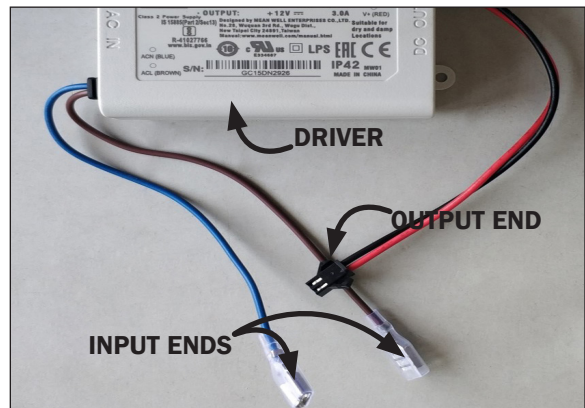


Fig. 35 LED driver

2. There are two snap features (Fig. 34) on top and one on each side holding the grill in place. **Note: When returning the grill be sure that the flanges on the bottom of the panel are engaged between the bottom of the grill and the case structure.**
3. Unplug the terminal, the switch connected to the input terminal and the LED light wiring connected to the output terminal (Fig. 35). One plug is for the lights, the other for the condensor fan. The plug with the yellow wire is the fan.
4. Use a screwdriver to remove the screws securing the power supply to complete the disassembly.

Before powering-up the case, be certain that all of the steps listed below have been completed to ensure proper case functionality, safety and compliance with warranty terms.

- ☐ **Have you thoroughly examined the case for shipping damage? (see pg. 8)**
- ☐ **Have you checked to ensure the case is horizontally level? (see pg. 11)**
- ☐ **Have you checked and verified the voltage of the receptacle you are going to use for power and the voltage required for the case match? (see pg. 16)**
- ☐ **Have you verified the display case switch is in the OFF position prior to plugging in to the main power source? (see pg. 16-17)**
- ☐ **Have you checked all exposed refrigeration lines to ensure that they are not kinked, dented or rubbing together and have installed the compressor compartment access panel? (see pg. 17-18)**
- ☐ **Have you reviewed safety warning labels and verified all are present and in good condition? (see pg. 18-19)**

After powering-up the case, be certain that all of the steps listed below have been completed to ensure proper case functionality, safety and compliance with warranty terms.

- 1. Check case temperature and adjust controller as needed. All display case connections comply with the information/instructions?**
- 2. Store the installation manual in the vicinity of the display case itself to where it can be accessed and consulted by all members of staff involved in the use of the refrigerator display case.**
- 3. Before placing food in the display case, allow the case to operate for approximately two (2) hours and ensure the case is at the proper temp before loading.**

AIRFLOW & DEFROST

AIRFLOW & PRODUCT LOAD

Hillphoenix cases provide maximum product capacity within the refrigerated air envelope. Please keep products within the appropriate load limit.

It is important that you do not overload the food product display so that it impinges on performance. Overloading will cause malfunction and the loss of proper temperature levels. *For full technical reference drawings with load limit lines, refer to pages 4 and 7.*

Access to the product is from the top. The case must only be loaded with product when the temperature specified for the product has been reached.

WARNING

Always keep product within the designated air curtain. Failure to do so may result in case malfunction and product losing proper temperature, resulting in sub-standard operation and increased chances of food contamination.

CAUTION

Proceed to the loading only once the display case has reached the proper temperature setting.

Defrost cycle stops automatically when ice/frost is removed (triggered by the internal temperature sensor or software based max time out period).

During automatic defrost the display shows "dEF". *For more detailed Dixell operating information (see Appendix B1).*

The accumulated defrost water is drained then evaporated.

TEMPERATURE DISPLAY

Indication of indoor temperature:

Ice Cream, <0°F (-18°C)
Frozen Food, <10°F (-12°C)
Meat, 29°F (-1.5°C) ~39°F (4°C)
Deli, 33°F (0.5°C) ~40°F (4.5°C)

Responsibility: operating staff
Frequency: several times a day

DANGER

FLAMMABLE

DANGER - Risk of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing.



DEFROST

Cases are delivered with a customer specific factory setting. Each case contains one or more hermetically sealed refrigerant circuits, the components of which are technically connected to each other permanently. The units can operate in four different operating modes: Ice Cream, Frozen Food, Meat and Deli.

The waste heat generated in the case is discharged to the ambient air via an air condenser.

The case is defrosting automatically to keep the inner tank free of frost and ice. The unit work properly even when the frost/ice accumulates on the surface of the inner tank. Automatic defrost and manual defrost are set inactive in freezer mode.

A limited number of manual defrosts can be performed. Push the DEF key for more than 2 seconds and a manual defrost will start.

Triggered by a factory-set time, the unit starts one defrost cycle per day (during night time).

CASE CLEANING

A periodic cleaning schedule should be established to maintain proper sanitation, insure maximum operating efficiency, and avoid the corrosive action of food fluids on metal parts that are left on for long periods of time. We recommend cleaning once a week. Further suggestions for case cleaning include the following:

CAUTION

Material damage due to excessive amounts of cleaning agents. Use only cleaning devices moistened with cleaning agents.

- To avoid shock hazard, be sure all electrical power is turned off before cleaning. In some installations, more than one disconnect switch may have to be turned off to completely de-energize the case.
- Check the waste outlet to insure it is not clogged before starting the cleaning process and avoid introducing water faster than the case drain can carry it away. This can be found about half way down the case wall. The condensate runs to the trough where it will exit the case to the condensate pan to be evaporated off.
- To clean the LED luminaires, shut off the lights in the case, then wipe the luminaires down with a soft, damp cloth. Avoid using harsh or abrasive cleaners as they may damage the lights. Be certain that the luminaires are completely dry before re-energizing.
- Clean from top to bottom when cleaning the display case to avoid cross contamination.
- If any potentially harmful cleaners are used, be certain to provide a temporary separator (e.g., cardboard, plastic wrap, etc.) between those cases that are being cleaned and those that may still contain product.
- Avoid spraying any cleaning liquids directly on the electrical connections.
- Allow cases to be turned off long enough to clean any frost or ice from coil and pans.
- Remove kickplate and clean underneath the case with a broom and a long-handled mop. Use warm water and a disinfecting cleaning solution when cleaning underneath the cases.

DANGER

SHOCK HAZARD

Always disconnect power to case when servicing or cleaning. Failure to do so may result in serious injury or death.

CAUTION

Use specific products for disinfection and cleaning: use soft, non-abrasive sponges and rags!

DANGER

FLAMMABLE

The refrigerant can escape and create an explosive gas/air mixture. Risk of fire due to sparks or overloading.



DANGER

When carrying out cleaning work or maintenance on the condensing unit it is essential to disconnect the machine and all its accessories from the main power.

DANGER

DANGER OF BURNS

Be careful of the elements inside the condensate dissipator pan: this operates at high temperature.

CLEANING AGENTS	CLEANING AREA
Clean water	Unit and glass surfaces outside and inside.
Slightly alkaline cleaning agent for heavier contamination (e.g. neutral soap and water).	Unit outside and inside. Glass surfaces outside.
Glass cleaner (recommended pH-value 5-7).	Glass surfaces outside.

CAUTION

Material damage due to wrong cleaning agents. Do not use abrasive, chemically aggressive, strongly acidic (pH-value <4), strongly alkaline (pH-value >8) or highly flammable cleaning agents. All cleaning devices must be clean themselves.

CASE CLEANING

FOR CLEANING	
CLEANING DEVICES	CLEANING AREA
Damp soft cotton cloth.	Unit and glass surfaces outside and inside.
Damp sponge cloth or sponge.	Unit Inside
FOR DRYING	
Lightly moistened soft cotton cloth.	Unit and glass surfaces outside and inside.

DURING OPERATION

Cleaning Steps

1. Clean exterior walls and the frame.
2. If available, clean the bumpers and water protection strips.
3. Clean glass surfaces outside.
4. Remove food residues, such as spilled liquids and packaging residues.
5. Clean the tracks for the lids.
6. Dry all cleaned surfaces and components.
7. Clean the floor in front of the unit.

COOLING FUNCTION SWITCHED OFF

Cleaning Steps

Frequency: For hygiene reasons at least twice a year.

1. Move product to another unit.
2. Switch refrigeration OFF by pressing the main power switch.
3. Remove the glass lids by pushing up into the seal then pulling out. Clean before re-installation with a spray bottle filled with an approved mild detergent and warm water. Also clean the associated plastic unit frame and seals. Do not apply large amounts of cleaning agent to these surfaces.

CAUTION

Material damage due to improper cleaning. Damage to surface of plastic bezels/unit frame and impairment of the function of seals. Always clean plastic bezels/unit frame and seals again with clean water. There must not be any detergent residues on the plastic bezels/unit frame and seals.

4. Remove all accessories from the interior of the unit. After use ensure for a neat and safe storage.
5. Remove all defrost water from the following options;
 - a) Wet vacuum cleaner/electrical devices with marking of explosion protection.
 - b) Lightly moistened cloth.
 - c) Units with defrost water plug; Place a pan under the drain and remove the defrost water plug. Let the defrost water drain off then close the drain with the defrost water plug again.
6. Remove food residues, such as spilled liquids and packaging residues.
7. Clean the interior of the unit such as the defrost drain and the defrost water sieve.
8. All cleaned areas and components must be dried again.
9. Re-install all accessories correctly.
10. Re-install the lids properly and close them completely.
11. Switch refrigeration function on by pressing the main power switch.

CAUTION

The case must only be loaded with goods when the temperature specified for the product has been reached.

DANGER

FLAMMABLE

DANGER - Risk of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing.



Condenser Air Intake

Clean and remove the debris from the condenser air intake monthly. If not cleaned regularly the head pressure will rise and cut all power off to the compressor by means of the pressure switch.

This can be cleaned with an air hose. Be sure to remove all debris and wait until completely dry before turning power back on to the case.

CAUTION

Be sure to clean the condenser air intake monthly. Failure to do so may result in loss of normal compressor functions and case damage.

Cleaning Condensate Tray

Inspect the condensate tray (Fig. 36) at least once every six months. Ensure you disconnect the electrical power supply and make sure you DO NOT touch the elements as they reach high temperatures (necessary for evaporation inside the pan).

Cleaning Condenser

The condensers used on the condensing units gather dust and dirt and must be cleaned regularly. Under normal working conditions this task must be executed at least once a month. A dirty condenser will reduce the display case performance: it will also result in increased energy consumption (Fig. 36).

1. Open the front panel grill after power switch is turned OFF.
2. Use a brush to brush of the dust on the surface of the condenser, or use a hand-held vacuum cleaner to suck out the dust on the surface of the condenser.
3. When done re-install the front panel grille.

UNSCHEDULED CASE MAINTENANCE

Unscheduled maintenance concerns all those tasks that cannot normally be carried out by the routine user as specified. Such tasks require qualified personnel with specific technical skills (e.g. refrigeration system specialists, electricians etc.) and must be carried out at least once a year. See the scheduled maintenance table for a list of the main tasks (Fig. 37).

If inspection reveals any rust, cracks and etc...it will be necessary to carry out repairs and/or replacement of parts so that the case meets code and the display case is in prime operating condition. To enhance safety, it is recommended that you always seek the advice of a specialized technician before carrying out any repair work.

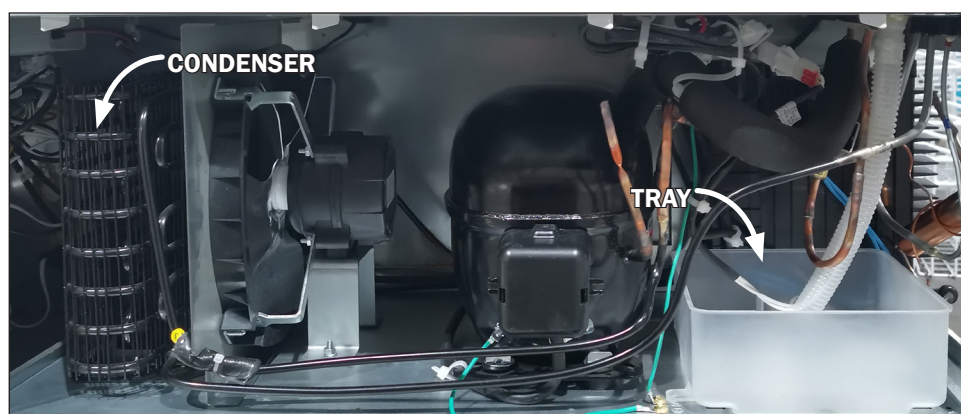


Fig. 36 Cleaning the condensate tray and condensing unit

SCHEDULED MAINTENANCE TABLE

Maintenance	Weekly	Monthly	Half Yearly	Yearly
Cleaning case	✓			
Cleaning gas condenser		✓		
Case visual check	✓			
Safety labels visual check	✓			
Check electric system				✓
Check water drainage system.			✓	
Check refrigeration system				✓
General inspection				✓

Fig. 37 Recommended cleaning schedule

TROUBLESHOOTING

PARTS SUBJECT TO WEAR & SPARE PARTS

Most spare parts carry clear, complete ID information. It is important that the refrigerated case parts be replaced by analogous parts of equivalent safety and quality: to order spare parts please contact Hillphoenix, stating the case model and serial number, found in this manual or on the case ID plate, and provide a description of the component and the desired quantity. Refer to the Parts section in the back of the manual for parts ordering and to identify parts that may need to be replaced.

CAUTION

Do not pressure wash equipment as damage to electrical components may result.

INSTRUCTIONS FOR PERSONNEL

In the Event of General Emergency

Immediately inform those in the vicinity of the perceived danger, gesticulating if necessary; cut the electrical power to the cabinet.

In the Event of Fire

In the event that the refrigerated case catches fire or is involved in a fire it is possible to use an extinguisher with a powder-type or CO2 extinguishing agent.

Resetting the Case

To restore normal operation it is necessary to eliminate all the causes of the emergency situation; if necessary repair or replace damaged parts.

Note: If safety devices are tripped it will be necessary to identify the cause before continuing work.

CAUTION

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

CAUTION

R-290 flammable refrigerant in use. Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation operating and maintenance instructions thoroughly before installing or servicing this equipment.

! DANGER

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FAILURES AND TROUBLESHOOTING

Failures

In the event of a failure of mechanical/electrical/refrigeration parts the initial safety conditions must be restored immediately by replacing or repairing such faulty parts.

TABLE OF FAILURES AND TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
The refrigerated cabinet does not work.	1. The main circuit breaker is set to OFF; 2. The power line between refrigerated cabinet and power socket is faulty; 3. The switch on the refrigerated cabinet control panel switch is not on.	1. Turn the main power on; 2. Make sure the plug is inserted properly in the socket; 3. Turn the power switch on the refrigerated cabinet panel ON.
The refrigeration effect of the refrigerated cabinet is poor.	1. The product door is not closed tightly; 2. The product temperature is set too high. 3. The product is exposed to direct sunlight or close to hot objects; 4. The goods are placed higher than the load line	1. Close the door tightly; 2. Lower the product temperature; 3. Keep the product in a cool place; 4. Place goods below the load line
The outer surface of the product is hot.	The outer surface of the product is wrapped with a condenser, which will generate heat during refrigeration.	This phenomenon is normal.

(Cont'd) NEXT PAGE

TABLE OF FAILURES AND TROUBLESHOOTING (Cont'd)

PROBLEM	POSSIBLE CAUSE	SOLUTION
The product is noisy	<ol style="list-style-type: none"> 1. The product is in the high-frequency operation stage at the initial stage of operation; 2. The product is in the defrosting stage; 3. The product is not placed stably. 	<ol style="list-style-type: none"> 1. After one to two hours of operation, the noise will be significantly reduced; 2. The defrosting cycle of the product is 24 hours. In the defrosting stage, high noise is a phenomenon of genuine production; 3. Adjust the foot to make the cabinet stable.
Condensation occurs on the glass door	The ambient temperature and humidity of the product are too high	The operating environment of the product is 75°F/55RH. In case of excessive humidity, please wipe off the water stains on the surface with a rag
There is peculiar smell inside the product	<ol style="list-style-type: none"> 1. New products will smell like plastic; 2. Check whether there are deteriorated goods in the cabinet; 3. The product has not been cleaned for a long time. 	<ol style="list-style-type: none"> 1. After the product is used for a period of time, the smell will disappear naturally; 2. Clean up spoiled food in time; 3. Clean the product regularly.

SAFETY DEVICES

WARNING

It is absolutely forbidden for the user to tamper with safety devices. Before using the refrigerated case check that mechanical safety covers are properly in place. Any tampering shall render the warranty null and void and exonerate Hillphoenix from any liability with regard to users of the refrigerated case.

Only maintenance personnel may carry out maintenance tasks involving safety devices. These tasks are listed below.

SAFETY DEVICE	SCOPE OF INTERVENTION	ACTION
Incorporated over-pressure cut-out	On incorporated condenser unit compressor	Cuts the electrical power of the compressor if the pressure of the refrigerant rises above the safety limits.
Fixed cover on electrical control panel. Remove only with aid of tools	Electrical control panel	Prevents access to live parts. Electrical danger warning sign applied (see "DESCRIPTION OF DANGERS AND RISKS RESIDUAL")

DESCRIPTION OF RESIDUAL DANGERS AND RISK

Residual Dangers

Dangers that have not been reduced/eliminated with the safety measures adopted on the refrigerated case can nevertheless be reduced/eliminated as long as users apply proper managerial practices.

☐ Ensure that all safety warning and labels are always in good condition; inspect them periodically and have them replaced whenever necessary.

☐ Do not install any spare parts that are not identical to the originals or of equivalent performance.

☐ Do not carry out any modifications or structural work without approval from Hillphoenix or a qualified field service technician.

☐ Should the refrigerated case be dented, inspect the structure visually or have qualified personnel carry out an inspection.

After a long period of disuse have a qualified field service technician carry out an inspection of the case to check that it is in good condition and working properly.

Residual Risks

While the refrigerated case has been designed to ensure maximum safety, there nevertheless remain some residual risks. Hillphoenix has identified the main **dangers and residual risks for users and maintenance personnel** as follows in chart below:

SCHEDULED MAINTENANCE TABLE

DESCRIPTION OF RESIDUAL RISK	CAUSE	SAFETY MEASURES
Danger of falls in area surrounding the cabinet	Presence of: stairs, columns etc. and/or slippery floors and objects and/or work tools	Mark out the relevant zones and highlight them with warning signs and symbols (e.g. yellow/black striped marker tape on stairs etc.) that are visible during both routine use and maintenance.
Danger of objects accidentally falling	Haphazard storage of tools/objects.	Use tool boxes in work areas. Ensure personnel are trained.
Danger of injury to hands, arms, legs and head	During cleaning and maintenance there may be objects or parts of the cabinet protruding from the case itself (e.g. glass covers open during cleaning)	Mark out the work area with appropriate barriers. Always use the recommended personal safety devices.
Risk of refrigerating gas leaks	Accidental damage to pipes	Immediate shutdown of case operation. Disconnect electrical power supply. Contact a service technician.

REFRIGERANT

This piece of equipment uses a R-290 Refrigeration system. This equipment has been clearly marked on the data tag the type of refrigerant that is being used. There is also a warning label stating that the unit contains R-290 refrigerant.

No smoking or open flames when servicing this equipment. If needed, use a CO2 or dry=power type fire extinguisher

Only authorized service technician, certified in R-290 system should service this equipment.

MANIFOLD SET

A R-134a manifold set can be used for servicing this equipment.

REFRIGERANT RECOVERY

Follow all national and local regulations for R-290 refrigerant recovery.

LEAKING CHECKING AND REPAIR

Leak check an R-290 system the same way you would an R-134a or R-404a system with the following exceptions.

1. Do not use a Halide leak detector on a R-290 system.
2. Electronic leak detector must be designated specifically for combustible gas.

Use of a bubble solution or an ultrasonic leak detector are acceptable.

When repairing a leak, it is recommended to use oxygen free dry nitrogen with a trace gas not exceeding 200PSI.

When accessing an R-290 system, proper charge is to be weighed into the system and the system is to be leak checked afterwards.

The R-290 equipment must have red process tubes and other devices through which the refrigerant is serviced, such as any service port. This color marking must remain on the equipment. If marking is removed, it must be replaced and extend at least 2.5 centimeters (1") from the compressor.

CAUTION

Component parts shall be replaced with like components. Service work shall be done by factory authorized service personnel, so as to minimize the risk of possible ignition due to incorrect parts or improper service.

CHARGING

Follow the charge amount specified on the data tag. It is recommended to use the shortest hoses possible to prevent under-charging.

- Ensure the system is sealed and leak checked
- Evacuate system to a minimum 500 microns
- Weigh in correct charge
- Leak check the system again
- Bleed the refrigerant from the high side hose to the low side hose
- Disconnect the hoses
- Remove line taps
- Be sure that you have proper ventilation

! DANGER

FLAMMABLE

DANGER - Risk of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing.



! CAUTION

It is highly recommended that a technician servicing a case with HC refrigerant is aware of safety considerations and maintenance procedures on how to safely handle flammable refrigerants.

Hillphoenix[®]

a **DOVER** company

Contact the Service Parts Department at:

1-844-HPX-PART (1-844-479-7278)

or

dfr-caseclaims@doverfoodretail.com (warranty)
dfr-orderparts@doverfoodretail.com (non-warranty)

Provide the following information about the part you are ordering:

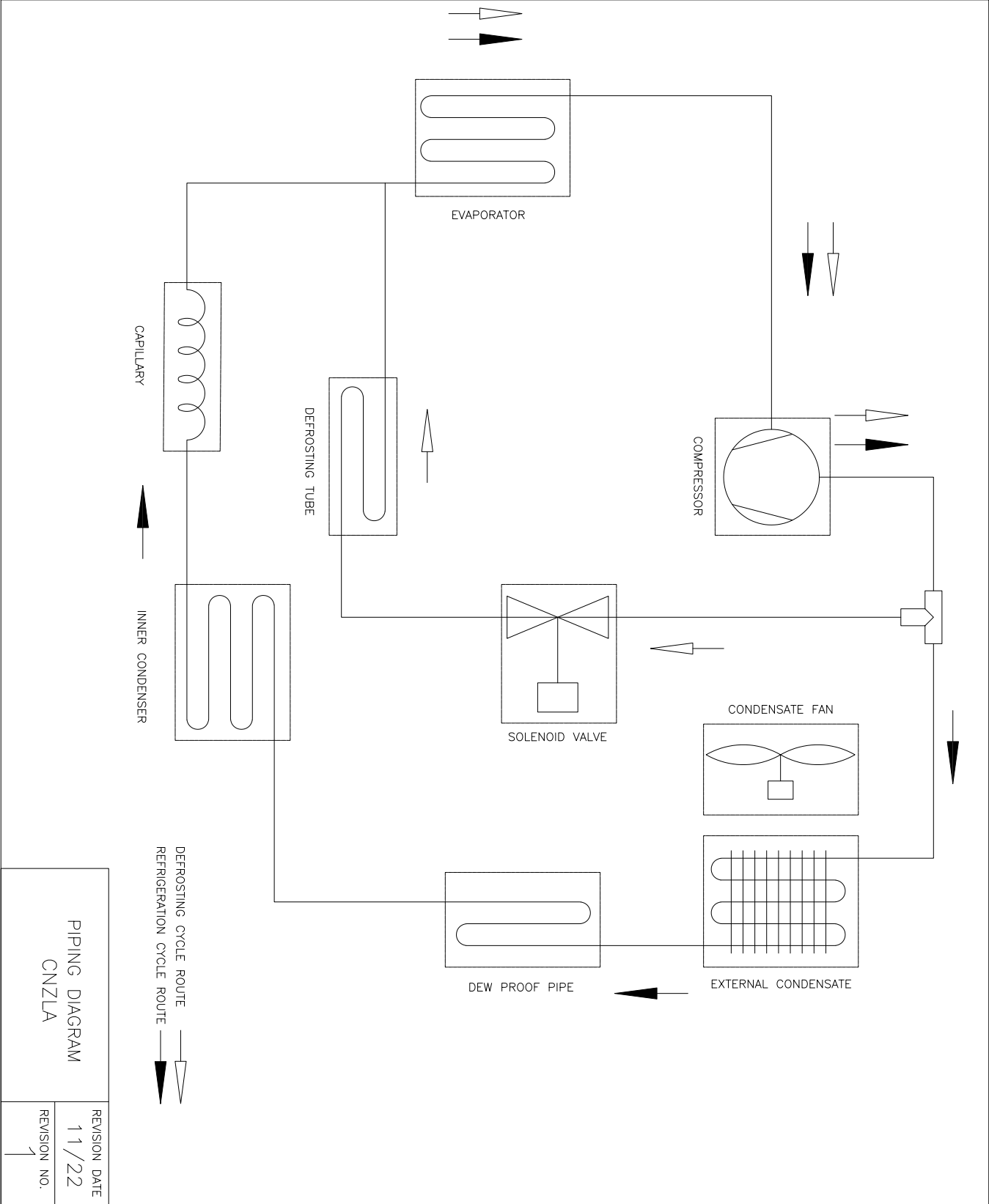
- **Model number and serial number*** of the case for which the part is intended.
- **Length of the part** (if applicable).
- **Color of part** (if painted) or color of polymer part.
- **Whether part is for left or right-hand application.**
- **Quantity**

***Data tag is located on the left end rear exterior panel of the case.**

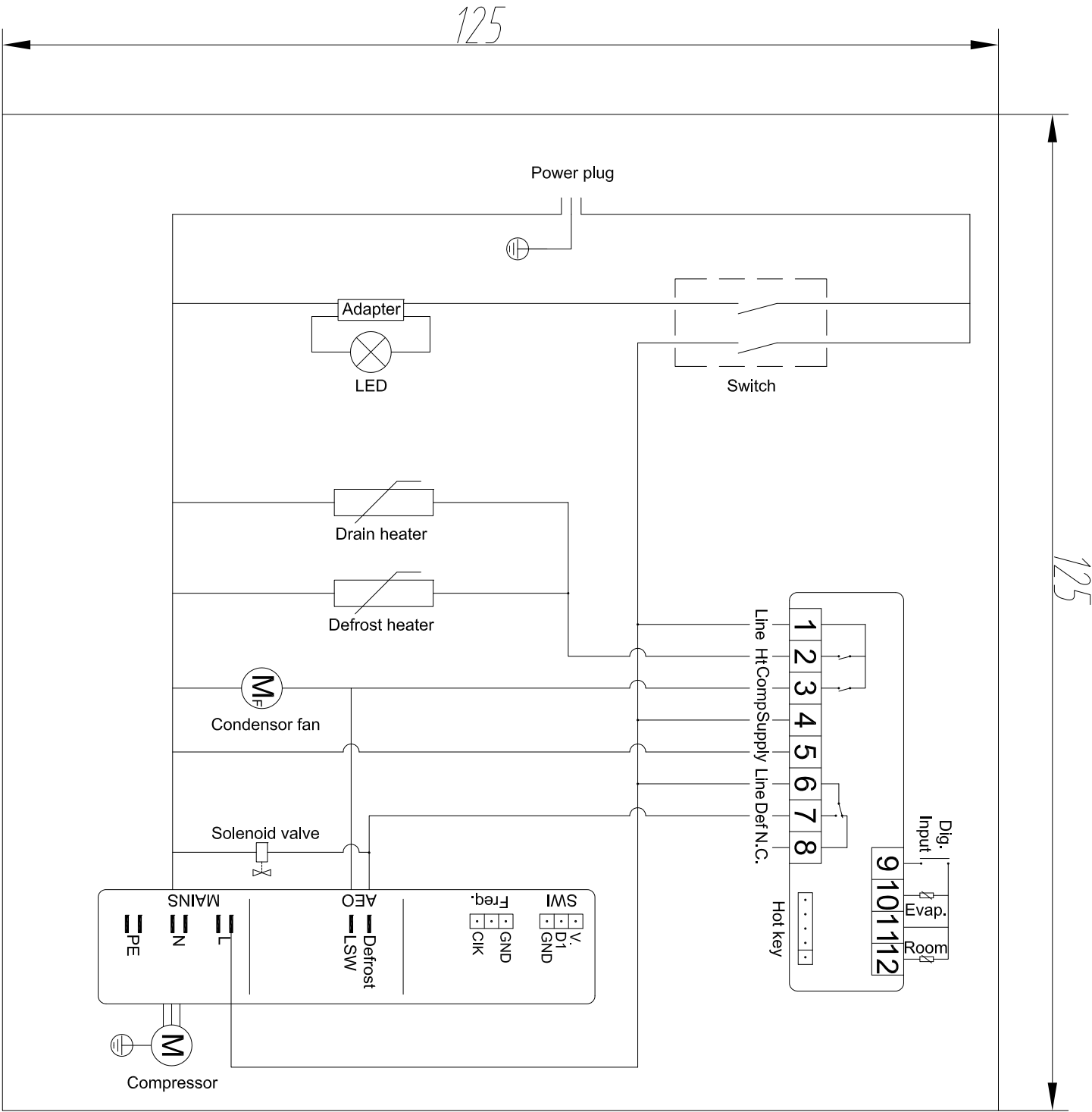
If the parts are to be returned for credit, contact the Parts Department. Do not send parts without authorization.

A1	Piping Diagram
A2	Wiring Diagram
B1-B3	Dixell Operating Instructions
C1	Sporlan Pressure-Temperature Chart (R290)
D1-D2	Parts List
E1-E29	Exploded Parts List

A1: PIPING DIAGRAM



A2: WIRING DIAGRAM



B1: DIXELL OPERATING INSTRUCTIONS

Dixell

Installing and operating instructions

EMERSON

DIGITAL CONTROLLER WITH DEFROST AND FANS MANAGEMENT XR06CX

1	General warnings	1
2	General description	1
3	Regulation	1
4	Defrost	1
5	Fans	1
6	Front panel commands	1
7	Parameters	2
8	Digital inputs (ONLY XR03CX)	2
9	Installation and mounting	2
10	Electrical connections	2
11	How to use the hot key	2
12	Alarm signalling	2
13	Technical data	3
14	Connections	3
15	Default setting values	3

1 GENERAL WARNINGS

1.1 PLEASE READ BEFORE USING THIS MANUAL

- This manual is part of the product and should be kept near the instrument for easy and quick reference.
- The instrument shall not be used for purposes different from those described hereunder. It cannot be used as a safety device.
- Check the application limits before proceeding.
- Dixell S.r.l. reserves the right to change the composition of its products, even without notice, ensuring the same and unchanged functionality.

1.2 SAFETY PRECAUTIONS

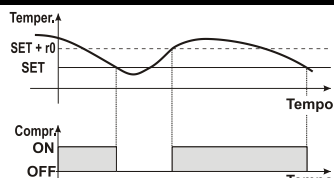
- Check the supply voltage is correct before connecting the instrument.
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high atmospheric humidity to prevent formation of condensation.
- Warning: disconnect all electrical connections before any kind of maintenance.
- Fit the probe where it is not accessible by the End User. The instrument must not be opened.
- In case of failure or faulty operation send the instrument back to the distributor or to "Dixell S.r.l." (see address) with a detailed description of the fault.
- Consider the maximum current which can be applied to each relay (see Technical Data).
- Ensure that the wires for probes, loads and the power supply are separated and far enough from each other, without crossing or intertwining.
- In case of applications in industrial environments, the use of mains filters (our mod. FT1) in parallel with inductive loads could be useful.

2 GENERAL DESCRIPTION

The **XR06CX**, format **32 x 74 x 60 mm**, is microprocessor based controller, suitable for applications on medium or low temperature ventilated refrigerating units. It has three relay outputs to control compressor, fan, and defrost which can be either electrical or reverse cycle (hot gas). The device is also provided with 2 NTC probe inputs, the first one for temperature control and the second one to be located onto the evaporator, to control the defrost termination temperature and to managed the fan and it's provided with a configurable digital input. With the **HOTKEY** it's possible to program the instrument in a quick and easy way.

3 REGULATION

The regulation is performed according to the temperature measured by the thermostat probe with a positive differential from the set point: if the temperature increases and reaches set point plus differential the compressor is started and then turned off when the temperature reaches the set point value again.



In case of fault in the thermostat probe the start and stop of the compressor are timed through parameters "Cy" and "Cn".

4 DEFROST

Two defrost modes are available through the "td" parameter:

- td=EL** → defrost through electrical heater (compressor OFF)
- td=in** → hot gas defrost (compressor ON).

Other parameters are used to control the interval between defrost cycles (**id**), its maximum length (**Id**) and two defrost modes: timed or controlled by the evaporator's probe. At the end of defrost dripping time is started, its length is set in the **dt** parameter. With **dt=0** the dripping time is disabled.

5 FANS

With **FC** parameter it can be selected the fans functioning:

- FC=cn** → will switch ON and OFF with the compressor and **not run** during defrost
- FC=on** → fans will run even if the compressor is off, and not run during defrost

After defrost, there is a timed fan delay allowing for drip time, set by means of the "Fd" parameter.

- FC=cy** → fans will switch ON and OFF with the compressor and **run** during defrost
- FC=oY** → fans will run continuously also during defrost.

An additional parameter "FS" provides the setting of temperature, detected by the evaporator probe, above which the fans are always OFF. This is used to make sure circulation of air only if his temperature is lower than set in "FS"

5.1 FANS AND DIGITAL INPUT

When the digital input is configured as door switch **IF=do**, fans and compressor status depends on the **dC** parameter value:

- dC=no** → normal regulation;
- dC=Fn** → fans OFF;
- dC=cP** → compressor OFF;
- dC=Fc** → compressor and fans OFF.

When **rd=y**, the regulation restart with door open alarm.

6 FRONT PANEL COMMANDS

**SET**

To display target set point, in programming mode it selects a parameter or confirm an operation

To start a manual defrost

In programming mode it browses the parameter codes or increases the displayed value

In programming mode it browses the parameter codes or decreases the displayed value

**AUX**

KEYS COMBINATION

- SET +** (up arrow) To lock or unlock the keyboard
- SET +** (down arrow) To enter in programming mode
- SET +** (up arrow) To return to room temperature display

LED	MODE	SIGNIFICATO
	On	Compressor enabled
	Flashing	Anti short cycle delay enabled (AC parameter)
	On	Defrost in progress
	Flashing	Dripping in progress
	On	Fans output enabled
	Flashing	Fans delay after defrost
	On	Measurement unit
	Flashing	Programming mode
	On	Measurement unit
	Flashing	Programming mode

6.1 HOW TO SEE THE SET POINT

- Push and immediately release the **SET** key, the set point will be showed;
- Push and immediately release the **SET** key or wait about 5s to return to normal visualisation.

6.2 HOW TO CHANGE THE SETPOINT

- Push the **SET** key for more than 2 seconds to change the Set point value;
- The value of the set point will be displayed and the "°C" or "°F" LED starts blinking;
- To change the Set value push the **▲** or **▼** arrows.
- To memorise the new set point value push the **SET** key again or wait 10s.

6.3 HOW TO START A MANUAL DEFROST

Push the **DEF** key for more than 2 seconds and a manual defrost will start

6.4 HOW TO CHANGE A PARAMETER VALUE

To change the parameter's value operate as follows:

- Enter the Programming mode by pressing the **SET+▼** keys for 3s ("°C" or "°F" LED starts blinking).
- Select the required parameter. Press the "**SET**" key to display its value
- Use **▲** or **▼** to change its value.
- Press "**SET**" to store the new value and move to the following parameter.

To exit: Press **SET+▲** or wait 15s without pressing a key.

NOTE: the set value is stored even when the procedure is exited by waiting the time-out to expire.

6.5 HIDDEN MENU

The hidden menu includes all the parameters of the instrument.

HOW TO ENTER THE HIDDEN MENU

- Enter the Programming mode by pressing the **SET+▼** keys for 3s ("°C" or "°F" LED starts blinking).
- Released the keys, then push again the **SET+▼** keys for more than 7s. The L2 label will be displayed immediately followed from the Hy parameter.

NOW YOU ARE IN THE HIDDEN MENU.

- Select the required parameter.
- Press the "**SET**" key to display its value
- Use **▲** or **▼** to change its value.
- Press "**SET**" to store the new value and move to the following parameter.

To exit: Press **SET+▲** or wait 15s without pressing a key.

NOTE1: if there aren't any parameter in L1, after 3s the "nP" message is displayed. Keep the keys pushed till the L2 message is displayed.

NOTE2: the set value is stored even when the procedure is exited by waiting the time-out to expire.

HOW TO MOVE A PARAMETER FROM THE HIDDEN MENU TO THE FIRST LEVEL AND VICEVERSA.

Each parameter present in the HIDDEN MENU can be removed or put into "THE FIRST LEVEL" (user level) by pressing **SET+▼**. In HIDDEN MENU when a parameter is present in First Level the decimal point is on.

6.6 TO LOCK THE KEYBOARD

- Keep pressed for more than 3s the **▲** and **▼** keys.
- The "OF" message will be displayed and the keyboard will be locked. If a key is pressed more than 3s the "OF" message will be displayed.

B2: DIXELL OPERATING INSTRUCTIONS

Dixell

Installing and operating instructions

EMERSON

6.7 TO UNLOCK THE KEYBOARD

Keep pressed together for more than 3s the Δ and ∇ keys till the "on" message will be displayed.

7 PARAMETERS

REGULATION

- Hy Differential:** (0.1°C ÷ 25°C / 1°F ÷ 45°F) Intervention differential for set point. Compressor Cut IN is SET POINT + differential (Hy). Compressor Cut OUT is when the temperature reaches the set point.
- LS Minimum SET POINT:** (-55°C+SET/-67°F+SET): Sets the minimum value for the set point.
- US Maximum SET POINT:** (SET+99°C/ SET+99°F). Set the maximum value for set point.
- ot First probe calibration:** (-9.9+9.9°C / -17°F + 17°F) allows to adjust possible offset of the first probe.
- P2 Evaporator probe presence:** n= not present; y= the defrost stops by temperature.
- oE Second probe calibration:** (-9.9+9.9°C / -17°F + 17°F) allows to adjust possible offset of the second probe.
- od Outputs activation delay at start up:** (0+99min) This function is enabled at the initial start up of the instrument and inhibits any output activation for the period of time set in the parameter.
- AC Anti-short cycle delay:** (0+50 min) minimum interval between the compressor stop and the following restart.
- Cy Compressor ON time with faulty probe:** (0+99 min) time during which the compressor is active in case of faulty thermostat probe. With Cy=0 compressor is always OFF.
- Cn Compressor OFF time with faulty probe:** (0+99 min) time during which the compressor is OFF in case of faulty thermostat probe. With Cn=0 compressor is always active.

DISPLAY

- CF Measurement unit:** (°C÷°F) °C =Celsius; °F =Fahrenheit. **WARNING:** When the measurement unit is changed the SET point and the values of the parameters Hy, LS, US, oE, o1, AU, AL have to be checked and modified if necessary.
- rE Resolution (only for °C):**(dE + in) dE= decimal between -9.9 and 9.9°C; in= integer
- Ld Default display:** (P1 + P2) P1= thermostat probe; P2= evaporator probe. SP=Set point (only XR04CX)
- dy Display delay:** (0+15 min.) when the temperature increases, the display is updated of 1 °C/1°F after this time.

DEFROST

- td Defrost type:** (EL – in) EL= electrical heater, compressor OFF; in= hot gas, compressor ON;
- dE Defrost termination temperature:** (-55+50°C / -67+99°F) if P2=Y it sets the temperature measured by the evaporator probe, which causes the end of defrost.
- id Interval between defrost cycles:** (0+99 minutes) Determines the time interval between the beginning of two defrost cycles.
- Md Maximum length for defrost:** (0+99 min. with 0 no defrost) when P2=n, (not evaporator probe: timed defrost) it sets the defrost duration, when P2 = y (defrost end based on temperature) it sets the maximum length for defrost.
- dd Start defrost delay:** (0+99min) This is useful when different defrost start times are necessary to avoid overloading the plant.
- dF Display during defrost:** (rt / it / SP / dF) rt= real temperature; it= start defrost temperature; SP= SET-POINT; dF= label dF.
- dt Drip time:** (0+99 min) time interval between reaching defrost termination temperature and the restoring of the control's normal operation. This time allows the evaporator to eliminate water drops that might have formed due to defrost.
- dP Defrost at power –on:** (y+n) y= at power on defrost starts; n= defrost doesn't start at power-on

FANS

- FC Fans operating mode:** (cn, on, cy, oY) cn= in runs with the compressor, OFF during defrost; on= continuous mode, OFF during defrost; cY= runs with the compressor, ON during defrost; oY= continuous mode, ON during defrost.
- Fd Fans delay after defrost:** (0+99 min) Interval between end of defrost and evaporator fans start.
- FS Fans stop temperature:** (-55+50°C / -67°F + 99°F) setting of temperature, detected by evaporator probe, above which fans are always OFF.

ALARMS

- AU Maximum temperature alarm:** (AL+99°C/99°F) when this temperature is reached the alarm is enabled, after the "Ad" delay time.
- AL Minimum temperature alarm:** (-55+AU°C / -67+99°F) when this temperature is reached the alarm is enabled, after the "Ad" delay time.
- Ad Temperature alarm delay:** (0+99 min) time interval between the detection of an alarm condition and alarm signalling.
- dA Exclusion of temperature alarm at startup:** (0+99 min) time interval between the detection of the temperature alarm condition after instrument power on and alarm signalling.

DIGITAL INPUT

- iP Digital input polarity:** (oP ÷ cL) oP= activated by closing the contact; cL= activated by opening the contact;
- iF Digital input configuration:** (EA/bA/do/dF/Au/Hc) EA= external alarm: "EA" message is displayed; bA= serious alarm "CA" message is displayed; do= door switch function; dF= defrost activation; Au =not used; Hc= inversion of the kind of action;
- di Digital input delay:** (0+99 min) with iF=EA or bA delay between the detection of the external alarm condition and its signalling. . With iF=do it represents the delay to activate the door open alarm.
- dC Compressor and fan status when open door:** (no/Fn/cP/Fc) no= normal; Fn = Fans OFF; cP =Compressor OFF; Fc = Compressor and fans OFF;
- rd Regulation with door open:** (n+y) n = no regulation if door is opened; Y= when di is elapsed regulation restarts even if door open alarm is present;

OTHER

- d1 Thermostat probe display (read only)**
- d2 Evaporator probe display (read only)**
- Pt Parameter code table**
- rL Software release**

8 DIGITAL INPUTS (ONLY XR03CX)

The free voltage digital input is programmable in different configurations by the "i1F" parameter.

8.1 DOOR SWITCH (IF=DO)

It signals the door status and the corresponding relay output status through the "dC" parameter: no = normal (any change); Fn = Fan OFF; CP = Compressor OFF; FC = Compressor and fan OFF. Since the door is opened, after the delay time set through parameter "di", the door alarm is enabled, the display shows the message "dA" and the regulation restarts if rd = y. The alarm stops as soon as the external digital input is disabled again. With the door open, the high and low temperature alarms are disabled.

8.2 EXTERNAL ALARM (IF=EA)

As soon as the digital input is activated the unit will wait for "di" time delay before signalling the "EA" alarm message. The outputs status don't change. The alarm stops just after the digital input is deactivated.

8.3 SERIOUS ALARM (IF=BA)

When the digital input is activated, the unit will wait for "di" delay before signalling the "CA" alarm message. The relay outputs are switched OFF. The alarm will stop as soon as the digital input is deactivated.

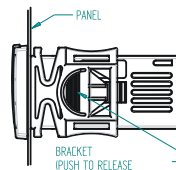
8.4 START DEFROST (IF=Df)

It starts a defrost if there are the right conditions. After the defrost is finished, the normal regulation will restart only if the digital input is disabled otherwise the instrument will wait until the "Md" safety time is expired.

8.5 INVERSION OF THE KIND OF ACTION: HEATING - COOLING (IF=HC)

This function allows to invert the regulation of the controller: from cooling to heating and viceversa.

9 INSTALLATION AND MOUNTING



Instrument **XR06CX** shall be mounted on vertical panel, in a 29x71 mm hole, and fixed using the special bracket supplied.

The temperature range allowed for correct operation is 0+60 °C. Avoid places subject to strong vibrations, corrosive gases, excessive dirt or humidity. The same recommendations apply to probes. Let air circulate by the cooling holes.

10 ELECTRICAL CONNECTIONS

The instrument is provided with screw terminal block to connect cables with a cross section up to 2,5 mm². Before connecting cables make sure the power supply complies with the instrument's requirements. Separate the probe cables from the power supply cables, from the outputs and the power connections. Do not exceed the maximum current allowed on each relay, in case of heavier loads use a suitable external relay.

10.1 PROBES

The probes shall be mounted with the bulb upwards to prevent damages due to casual liquid infiltration. It is recommended to place the thermostat probe away from air streams to correctly measure the average room temperature. Place the defrost termination probe among the evaporator fins in the coldest place, where most ice is formed, far from heaters or from the warmest place during defrost, to prevent premature defrost termination.

11 HOW TO USE THE HOT KEY

11.1 HOW TO PROGRAM THE HOT KEY FROM THE INSTRUMENT (UPLOAD)

- Program one controller with the front keypad.
- When the controller is ON, insert the "Hot key" and push Δ key; the "uP" message appears followed a by flashing "Ed"
- Push "SET" key and the "Ed" will stop flashing.
- Turn OFF the instrument remove the "Hot Key", then turn it ON again.

NOTE: the "Er" message is displayed for failed programming. In this case push again o key if you want to restart the upload again or remove the "Hot key" to abort the operation.

11.2 HOW TO PROGRAM AN INSTRUMENT USING HOT KEY (DOWNLOAD)

- Turn OFF the instrument.
- Insert a programmed "Hot Key" into the 5 PIN receptacle and then turn the Controller ON.
- Automatically the parameter list of the "Hot Key" is downloaded into the Controller memory, the "do" message is blinking followed a by flashing "Ed".
- After 10 seconds the instrument will restart working with the new parameters.
- Remove the "Hot Key" ..

NOTE: the "Er" message is displayed for failed programming. In this case push again o key if you want to restart the upload again or remove the "Hot key" to abort the operation.

12 ALARM SIGNALLING

Mess.	Cause	Outputs
"P1"	Room probe failure	Compressor output according to "Cy" e "Cn"
"P2"	Evaporator probe failure	Defrost end is timed
"HA"	Maximum temperature alarm	Outputs unchanged
"LA"	Minimum temperature alarm	Outputs unchanged
"EA"	External alarm	Outputs unchanged
"CA"	Serious external alarm	All outputs OFF
"dA"	Door Open	Compressor and fans restarts

12.1 ALARM RECOVERY

Probe alarms "P1" and "P2" start some seconds after the fault in the related probe; they automatically stop some seconds after the probe restarts normal operation. Check connections before replacing the

B3: DIXELL OPERATING INSTRUCTIONS

Dixell

Installing and operating instructions

EMERSON

probe. Temperature alarms "HA" and "LA" automatically stop as soon as the temperature returns to normal values.

Alarms "EA" and "CA" (with iF=bL) recover as soon as the digital input is disabled.

13 TECHNICAL DATA

Housing: self extinguishing ABS.

Case: frontal 32x74 mm; depth 60mm;

Mounting: panel mounting in a 71x29mm panel cut-out

Protection: IP20; **Frontal protection:** IP65

Connections: Screw terminal block $\leq 2,5 \text{ mm}^2$ wiring.

Power supply: according to the model 230Vac $\pm 10\%$, 50/60Hz --- 110Vac $\pm 10\%$, 50/60Hz

Power absorption: 3.5VA max

Display: 2 digits, red LED, 14,2 mm high; **Inputs:** Up to 2 NTC.

Digital input: free voltage contact

Relay outputs: compressor SPST 8(3) A, 250Vac; SPST 16(6)A 250Vac or 20(8)A 250Vac

defrost: SPDT 8(3) A, 250Vac

fan: SPST 8(3) A, 250Vac or SPST 5(2) A

Data storing: on the non-volatile memory (EEPROM).

Kind of action: 1B; **Pollution degree:** 2; **Software class:** A;

Rated impulsive voltage: 2500V; **Overvoltage Category:** II

Operating temperature: 0+60 °C; **Storage temperature:** -25+60 °C.

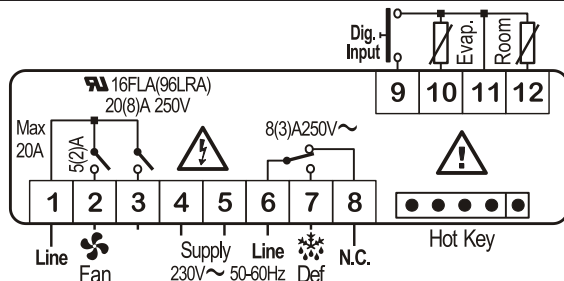
Relative humidity: 20+85% (no condensing)

Measuring and regulation range: NTC -40+110°C;

Resolution: 0,1 °C or 1°C or 1 °F (selectable); **Accuracy (ambient temp. 25°C):** $\pm 0,1 \text{ }^\circ\text{C} \pm 1 \text{ digit}$

14 CONNECTIONS

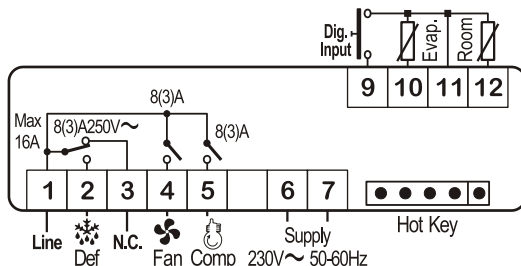
14.1 XR06CX -- 20+8+5A OR 16+8+5A -- 110VAC OR 230VAC



NOTE: The compressor relay is 20(8)A or 16(6)A depending on the model.

NOTE: Connect the 120Vac power supply to 4-5

14.2 XR06CX -- 8+8+8A -- 110VAC OR 230VAC



NOTE: Connect the 120Vac power supply to 6-7

15 DEFAULT SETTING VALUES

LABEL	DESCRIPTION	RANGE	DEFAULT
REGULATION			
Hy	Differential	0.1 ÷ 25°C / 1 ÷ 45°F	2.0°C / 4 °F
LS	Minimum Set Point	-55°C+SET/-67°F+SET	-55°C / -55°F
US	Maximum Set Point	SET+99°C / SET+99°F	99 °C / 99°F
ot	First probe calibration	-9.9+9.9°C/-17+17°F	0.0
P2	Second probe presence	n - Y	y
oE	Second probe calibration	-9.9+9.9°C/-17+17°F	0.0
od	Outputs activation delay at start up	0 ÷ 99 min	0
AC	Anti-short cycle delay	0 ÷ 50 min	1
Cy	Compressor ON time faulty probe	0 ÷ 99 min	15
Cn	Compressor OFF time faulty probe	0 ÷ 99 min	30
DISPLAY			
CF	Measurement units	°C - °F	°C / °F
rE	Resolution (only for °C)	dE - in	dE

Ld	Default Display	P1 - P2 - SP	P1
dy	Display delay	0 ÷ 15 min	0
DEFROST			
td	Defrost type	EL - in	EL
dE	Defrost termination temperature	-55+50°C/-67+99°F	8.0 °C / 46 °F
id	Interval between defrost cycles	0 ÷ 99 hours	6
Md	Maximum length for defrost	0 ÷ 99 min.	30
dd	Start defrost delay	0 ÷ 99 min.	0
dF	Display during defrost	rt - in - SP - dF	it
dt	Drip time	0 ÷ 99 min	0
dP	Defrost at power-on	y - n	n
FANS			
FC	Fans operating mode	cn - on - cY - oY	on
Fd	Fans delay after defrost	0 ÷ 99 min	10
FS	Fans stop temperature	-55+50°C/-67+99°F	2.0 °C / 36 °F
ALARMS			
AU	Maximum temperature alarm	ALL+99°C / ALL+99°F	99 °C / 99 °F
AL	Minimum temperature alarm	-55°C+ALU/-67°F+ALU	-55 °C / -55 °F
Ad	Temperature alarm delay	0 ÷ 99 min	15
dA	Exclusion of temperature alarm at startup	0 ÷ 99 min	90
DIGITAL INPUT			
iP	Digital input polarity	cL - oP	cL
iF	Digital input configuration	EA - bA - do - dF - Au - Hc	EA
di	Digital input delay	0 ÷ 99 min	5
dC	Compressor and fan status when open door	no /Fn / cP / Fc	FC
rd	Regulation with door open	n - Y	y
OTHER			
d1	Thermostat probe display	Read Only	---
d2	Evaporator probe display	Read Only	---
Pt	Parameter code table	Read Only	---
rL	Firmware release	Read Only	---

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Climate Technologies

Dixell S.r.l. - Z.I. Via dell'Industria, 27 - 32010 Pieve d'Alpago (BL) ITALY
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C1: SPORLAN PRESSURE-TEMPERATURE CHART

TEMPERATURE - PRESSURE CHART
NATURAL REFRIGERANTS



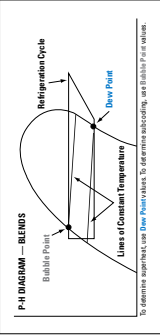
At Sea Level, psig

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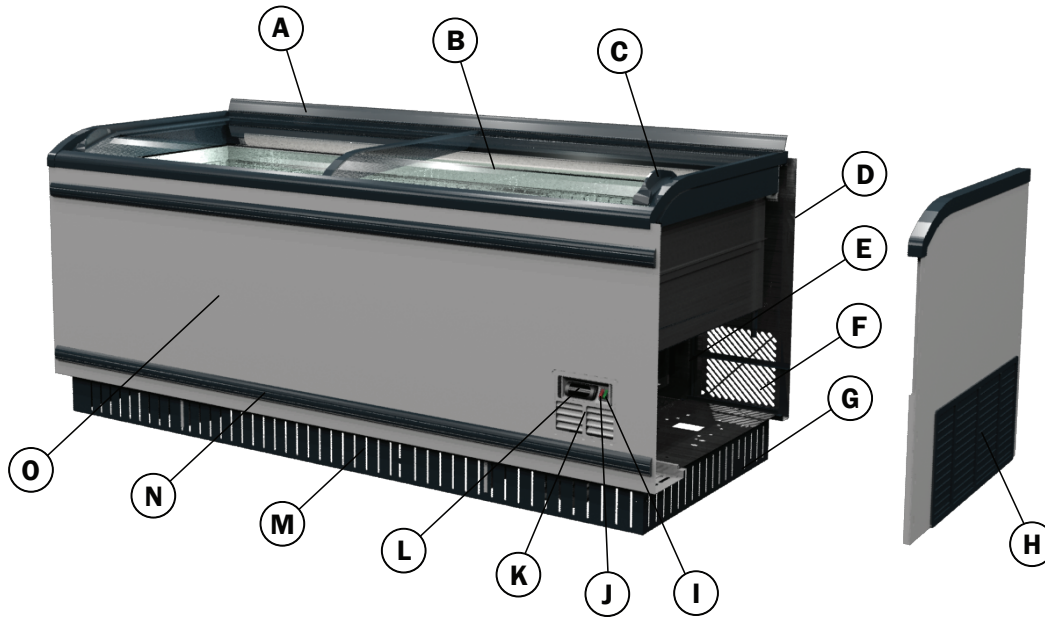
REFRIGERANT TYPE (SAFETY CLASS)				REFRIGERANT (SPORLAN LETTER CODE)				REFRIGERANT TYPE (SAFETY CLASS)				REFRIGERANT (SPORLAN LETTER CODE)				REFRIGERANT TYPE (SAFETY CLASS)				REFRIGERANT (SPORLAN LETTER CODE)			
TEMP.				TEMP.				TEMP.				TEMP.				TEMP.				TEMP.			
°F				°C				°F				°C				°F				°C			
HC (A3)				HC (A3)				HC (A3)				HC (A3)				HC (A3)				HC (A3)			
290(O)				441A				290(O)				441A				290(O)				441A			
170(K)				600a(U)				170(K)				600a(U)				170(K)				600a(U)			
AMMONIA (B2L)				717(A)				AMMONIA (B2L)				AMMONIA (B2L)				AMMONIA (B2L)				AMMONIA (B2L)			
744				744				744				744				744				744			
50	-45.6	78.9	4.3	21.1	23.6	14.3	103.4	10	-12.2	239.7	31.8	5.8	0.5	23.8	345.7	60	15.6	480.9	93.0	77.9	23.5	92.9	733.1
45	-42.8	88.1	0.9	19.7	22.6	11.7	116.6	12	-11.7	243.5	32.7	6.3	0.0	24.7	351.5	54	16.7	483.2	96.3	80.6	24.9	96.9	753.2
40	-40.0	98.1	1.4	18.1	21.4	8.8	131.0	12	-11.1	247.2	33.6	6.8	0.4	25.6	367.4	62	17.8	505.7	99.7	83.4	26.3	101.1	773.8
35	-37.2	108.7	3.4	16.3	20.2	5.4	146.5	14	-10.6	251.9	34.5	7.2	0.7	26.5	383.4	65	18.3	512.1	101.4	84.7	27.0	103.2	784.2
30	-34.4	120.0	5.7	14.3	18.8	1.6	163.1	14	-10.0	254.9	35.4	7.7	1.0	27.5	399.5	68	18.9	518.5	103.1	86.2	27.7	105.3	794.8
25	-33.9	122.4	6.1	13.8	18.5	0.8	166.6	15	-9.4	258.8	36.3	8.2	1.4	28.4	416.6	70	20.0	531.4	106.6	89.0	29.1	109.7	816.2
20	-33.3	124.7	6.6	13.4	18.1	0.0	170.1	16	-8.9	262.7	37.2	8.7	1.7	29.4	431.8	72	20.0	531.4	106.6	89.0	29.1	109.7	816.2
15	-32.8	127.1	7.1	12.9	17.8	0.4	173.7	17	-8.3	266.7	38.2	9.2	2.1	30.4	448.0	74	22.2	558.2	113.9	94.9	32.2	118.8	860.5
10	-32.2	129.6	7.6	12.5	17.5	0.8	177.3	18	-7.8	270.7	39.2	9.7	2.4	31.4	464.6	76	23.3	578.9	119.5	99.5	33.7	123.5	883.3
5	-31.7	132.1	8.1	12.0	17.2	1.3	181.0	19	-7.2	274.8	40.1	10.3	2.8	32.4	480.7	78	24.4	595.9	125.4	104.2	35.3	128.3	906.7
0	-31.1	134.6	8.6	11.5	16.8	1.7	184.8	20	-6.7	278.9	41.1	10.8	3.2	33.5	497.2	80	25.6	620.2	131.8	109.5	37.0	133.3	930.5
-5	-30.6	137.1	9.1	11.0	16.5	2.2	188.5	21	-6.1	283.0	42.1	11.3	3.5	34.6	513.8	82	26.7	644.9	138.7	114.7	38.7	138.4	954.9
-10	-30.0	139.7	9.6	10.5	16.2	2.6	192.4	22	-5.6	287.2	43.2	11.9	3.9	35.7	530.4	84	27.8	669.7	145.7	119.7	40.4	143.7	979.8
-15	-29.4	142.3	10.2	10.0	15.8	3.1	196.3	23	-5.0	291.4	44.2	12.5	4.3	36.8	547.1	86	29.0	694.5	152.7	124.9	42.1	148.7	1004.8
-20	-28.9	144.9	10.7	9.5	15.4	3.6	200.2	24	-4.4	295.7	45.2	13.0	4.7	37.9	564.8	88	30.1	719.3	159.7	130.1	43.8	153.7	1029.8
-25	-28.3	147.5	11.3	9.0	15.1	4.1	204.2	25	-3.9	300.0	46.3	13.6	5.1	39.0	582.5	90	31.2	744.1	166.7	135.3	45.5	158.7	1054.8
-30	-27.8	150.3	11.8	8.4	14.7	4.6	208.3	26	-3.3	304.4	47.4	14.2	5.5	40.2	600.3	92	32.3	769.1	173.7	140.5	47.2	163.7	1079.8
-35	-27.2	153.0	12.4	7.9	14.3	5.1	212.4	27	-2.8	308.8	48.5	14.8	5.9	41.4	618.0	94	33.4	794.1	180.7	145.7	49.0	168.7	1104.8
-40	-26.7	155.7	13.0	7.3	13.9	5.6	216.5	28	-2.2	313.2	49.6	15.4	6.3	42.6	636.0	96	34.5	819.1	187.7	150.7	50.7	173.7	1129.8
-45	-26.1	158.5	13.6	6.7	13.5	6.2	220.8	29	-1.7	317.7	50.7	16.0	6.8	43.8	654.0	98	35.6	844.1	194.7	155.7	52.4	178.7	1154.8
-50	-25.6	161.4	14.2	6.1	13.1	6.7	225.0	30	-1.1	322.3	51.8	16.6	7.2	45.0	672.0	100	36.7	869.1	201.7	160.7	54.1	183.7	1179.8
-55	-25.0	164.2	14.8	5.5	12.7	7.3	229.4	31	-0.6	326.8	53.0	17.3	7.6	46.3	690.0	102	37.8	894.1	208.7	165.7	55.8	188.7	1204.8
-60	-24.4	167.1	15.4	4.9	12.2	7.8	233.8	32	0.0	331.5	54.1	17.9	8.1	47.6	708.0	104	38.9	919.1	215.7	170.7	57.5	193.7	1229.8
-65	-23.9	170.0	16.1	4.3	11.8	8.4	238.2	33	0.6	336.1	55.3	18.6	8.5	48.9	726.0	106	40.0	944.1	222.7	175.7	59.2	198.7	1254.8
-70	-23.3	173.0	16.7	3.7	11.4	9.0	242.7	34	1.1	340.9	56.5	19.2	9.0	50.2	744.0	108	41.1	969.1	229.7	180.7	61.0	203.7	1279.8
-75	-22.8	176.0	17.4	3.0	10.9	9.6	247.3	35	1.7	345.6	57.7	19.9	9.4	51.6	762.0	110	42.2	994.1	236.7	185.7	62.7	208.7	1304.8
-80	-22.2	179.0	18.0	2.4	10.4	10.3	251.9	36	2.2	350.4	58.9	20.6	9.9	52.9	780.0	112	43.3	1019.1	243.7	190.7	64.4	213.7	1329.8
-85	-21.7	182.1	18.7	1.7	10.0	10.9	256.6	37	2.8	355.3	60.1	21.3	10.4	54.3	798.0	114	44.4	1044.1	250.7	195.7	66.1	218.7	1354.8
-90	-21.1	185.2	19.4	1.0	9.5	11.5	261.3	38	3.3	360.2	61.4	22.0	10.9	55.7	816.0	116	45.5	1069.1	257.7	200.7	67.8	223.7	1379.8
-95	-20.6	188.3	20.1	0.3	9.0	12.2	266.1	39	3.9	365.2	62.7	22.7	11.4	57.2	834.0	118	46.6	1094.1	264.7	205.7	69.5	228.7	1404.8
-100	-20.0	191.5	20.8	0.2	8.5	12.9	271.0	40	4.4	370.2	63.9	23.4	11.9	58.6	852.0	120	47.7	1119.1	271.7	210.7	71.2	233.7	1429.8
-105	-19.4	194.7	21.5	0.6	8.0	13.6	275.9	41	5.0	375.2	65.2	24.2	12.4	60.1	870.0	122	48.8	1144.1	278.7	215.7	72.9	238.7	1454.8
-110	-18.9	197.9	22.2	0.9	7.5	14.3	280.9	42	5.6	380.3	66.6	24.9	12.9	61.6	888.0	124	49.9	1169.1	285.7	220.7	74.6	243.7	1479.8
-115	-18.3	201.2	22.9	1.3	7.0	15.0	285.9	43	6.1	385.5	67.9	25.7	13.4	63.1	906.0	126	51.0	1194.1	292.7	225.7	76.3	248.7	1504.8
-120	-17.8	204.5	23.7	1.7	6.4	15.7	291.0	44	6.7	390.7	69.2	26.4	14.0	64.7	924.0	128	52.1	1219.1	300.7	230.7	78.0	253.7	1529.8
-125	-17.2	207.9	24.5	2.1	5.9	16.4	296.2	45	7.2	395.9	70.6	27.2	14.5	66.3	942.0	130	53.2	1244.1	307.7	235.7	79.7	258.7	1554.8
-130	-16.7	211.3	25.2	2.5	5.3	17.2	301.5	46	7.8	401.2	72.0	28.0	15.0	67.9	960.0	132	54.3	1269.1	314.7	240.7	81.4	263.7	1579.8
-135	-16.1	214.7	26.0	2.9	4.8	18.0	306.8	47	8.3	406.4	73.4	28.8	15.5	69.5	978.0	134	55.4	1294.1	321.7	245.7	83.1	268.7	1604.8
-140	-15.6	218.2	26.8	3.3	4.2	18.8	312.1	48	8.9	411.6	74.8	29.6	16.2	71.1	996.0	136	56.5	1319.1	328.7	250.7	84.8	273.7	1629.8
-145	-15.0	221.7	27.6	3.7	3.6	19.6	317.6	49	9.4	416.8	76.2	30.4	16.7	72.7	1014.0	138	57.6	1344.1	335.7	255.7	86.5	278.7	1654.8
-150	-14.4	225.2	28.4	4.1	3.0	20.4	323.1	50	10.0	422.0	77.6	31.3	17.3	74.3	1032.0	140	58.7	1369.1	342.7	260.7	88.2	283.7	1679.8
-155	-13.9	228.8	29.2	4.5	2.4	21.2	328.6	51	10.6	427.2	79.0	32.1	17.8	75.9	1050.0	142	59.8	1394.1	349.7	265.7	89.9	288.7	1704.8
-160	-13.3	232.4	30.1	5.0	1.8	22.1	334.2	52	11.1	432.4	80.4	33.0	18.3	77.5	1068.0	144	60.9	1419.1	356.7	270.7	91.6	293.7	1729.8
-165	-12.8	236.0	30.9	5.4	1.2	22.9	339.9	53	11.7	437.6	81.8	33.9	18.8	79.1	1086.0	146	62.0	1444.1	363.7	275.7	93.3	298.7	1754.8

To determine Subcooling for 400-Series blends, use Bubble Point in Gray.
To determine Superheat for 400-Series blends, use Dew Point in Blue.

Pressure, psig (pounds per square inch gauge), 80.0
Vacuum, inHg (inches of Mercury), 14.7



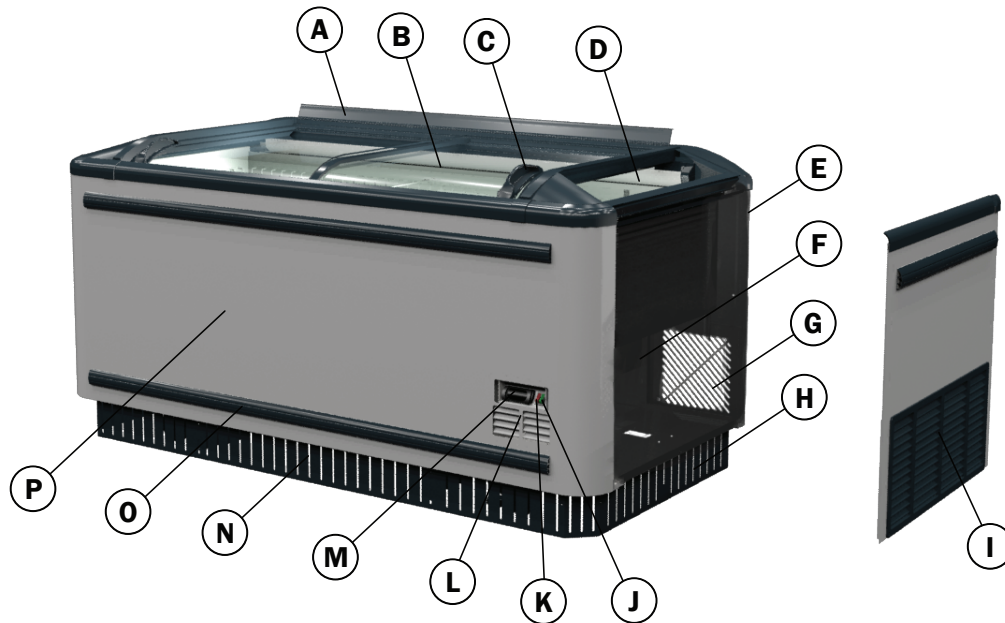
D1: PARTS LIST *CNZLA (R-290)



A	Price Tag Molding
B	Top Glass Door
C	Top Glass Door Handle
D	Outside Back
E	Compressor Compartment
F	Compressor Air Exhaust
G	End Kickplate
H	Compressor Air Exhaust
I	Light Switch (Green)
J	Main Power Switch (Red)
K	Condenser Air Intake
L	Dixell Controller
M	Front Kickplate
N	Cart Bumper
O	Front Exterior Panel/Die Board

Note: The visual side panel shown separate from the case is not removable and only shown in this manner for visibility of the components behind it. The side panel shown removed in the exploded rendering here is for the labeling of parts only.

D2: PARTS LIST *CNEZLA (R-290)



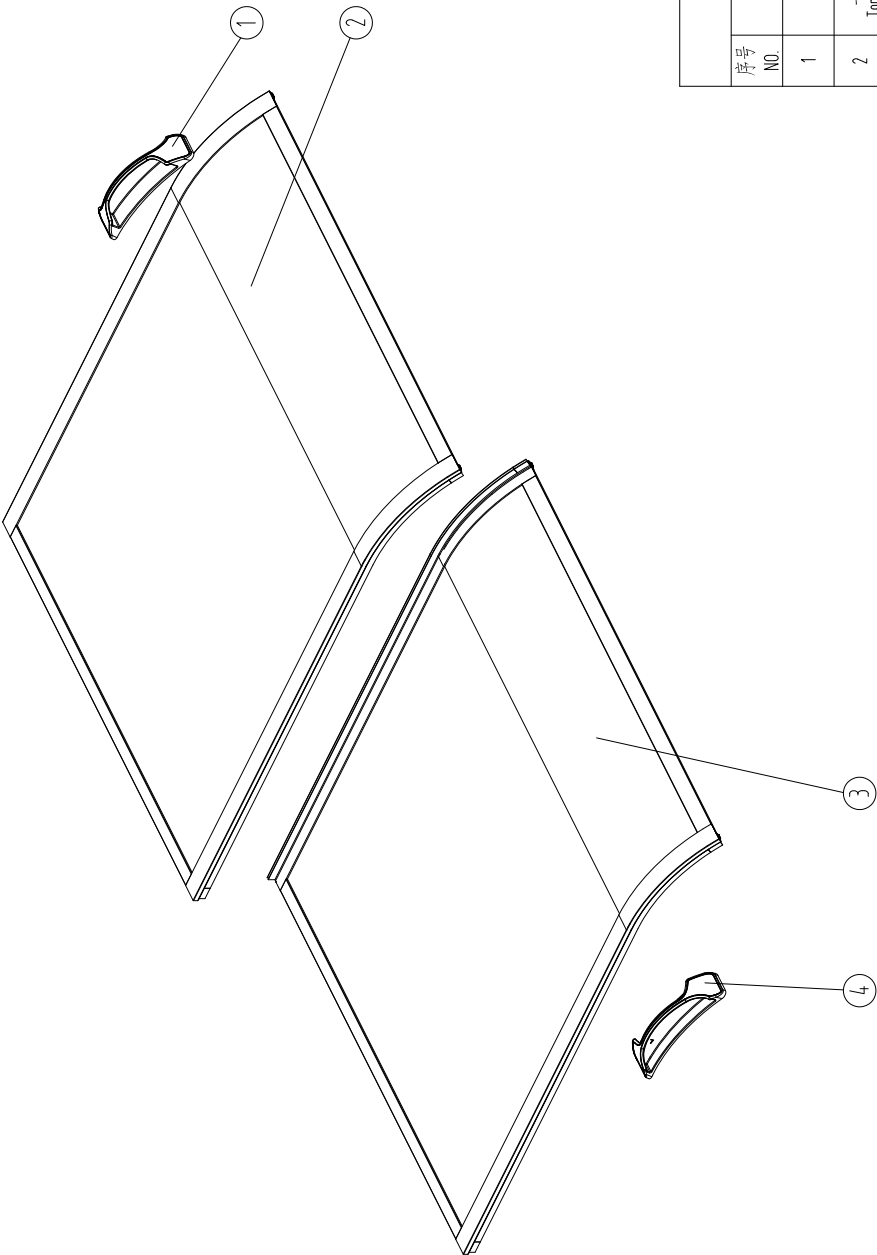
A	Price Tag Molding
B	Top Glass Door
C	Top Glass Door Handle
D	Right Glass (Reverse Side - Left)
E	Outside Back
F	Compressor Compartment
G	Compressor Air Exhaust
H	End Kickplate
I	Compressor Air Exhaust
J	Light Switch (Green)
K	Main Power Switch (Red)
L	Condenser Air Intake
M	Dixell Controller
N	Front Kickplate
O	Cart Bumper
O	Front Exterior Panel/Die Board

Note: The visual side panel shown separate from the case is not removable and only shown in this manner for visibility of the components behind it. The side panel shown removed in the exploded rendering here is for the labeling of parts only.

E1: EXPLODED PARTS LIST (CNZLA-4)

序号 NO.	名称 Name	物料编码 Part Number
1	玻璃门组件 Glass Door Assembly	See Page 2
2	不锈钢拉筋 Stainless Steel Stiffener	3404001200
3	隔栏组件 Grid Component	See Page 3
4	LED灯组件 LED Light Component	See Page 4
5	喷射压缩机室后挡板 Back Grille	8107006209
6	底脚轮 Wheel	3404001030
7	踢脚板固定板 Kickplate Fixed Plate	8106020396
8	踢脚板连接板 Kickplate Linking Plate	8106020397
9	防撞条左端档 Left Bumper Blocking	82000002449
10	前防撞条底座 Front Bumper Base	3501001236
11	前防撞条盖条 Front Bumper Cover	3501001237
12	防撞条右端档 Right Bumper Blocking	82000002450
13	前格栅组件 Front Grille	See Page 5
14	压缩机组件 Compressor Assembly	See Page 7
15	压机室挡板 compressor Room Baffle	82000002448
16	电源线 Power Line	3009900494

E2: EXPLODED PARTS LIST (CNZLA-4)



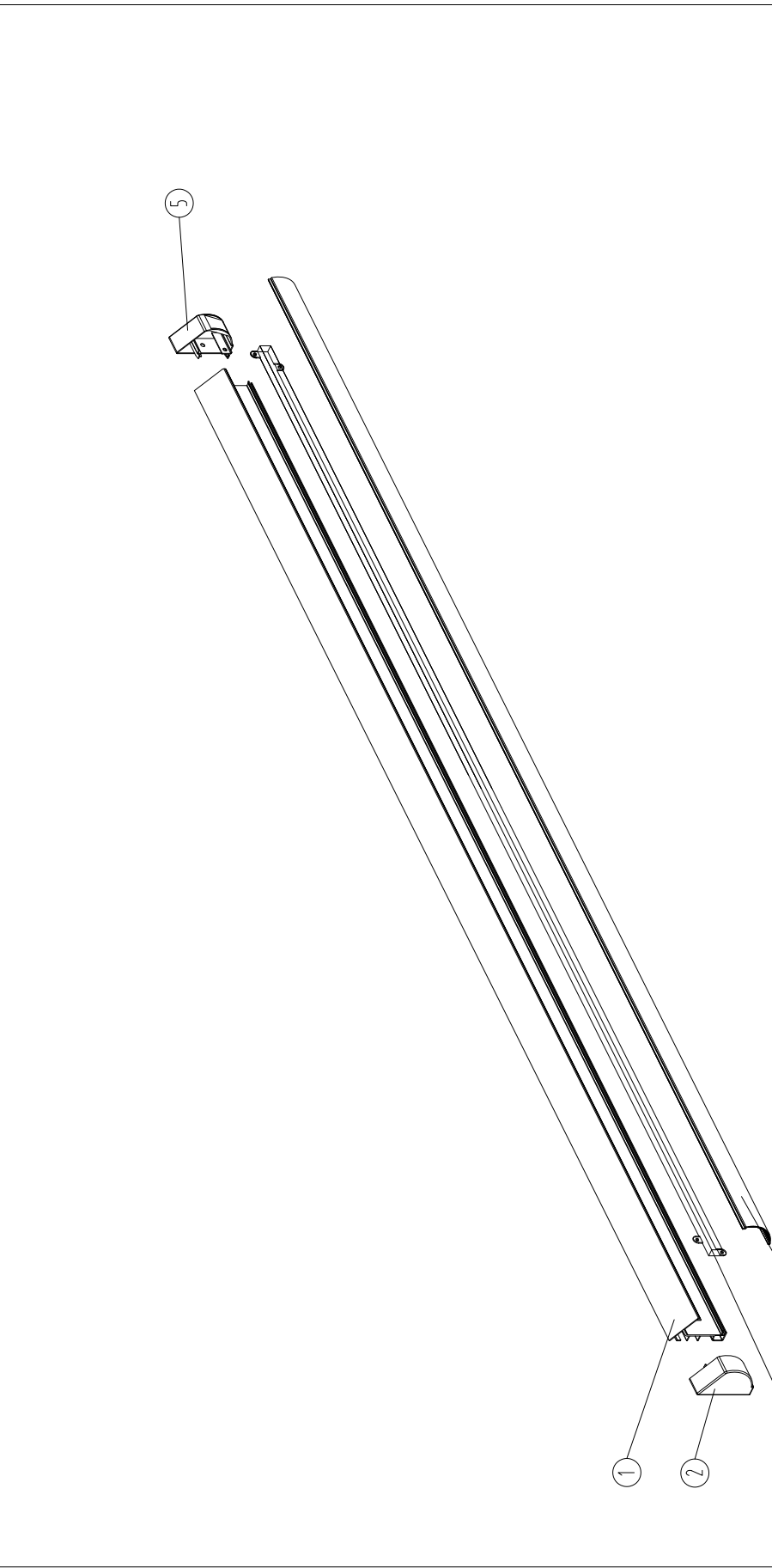
1-玻璃门组件			
1-Glass Door Assembly		物料编码	
序号	名称	Part Number	
NO.	Name		
1	右把手 Right Handle	8200002942	
2	上玻璃门 (带把手) Top Glass Door with handle	8208000841	
3	下玻璃门 (带把手) Bottom Glass Door with Handle	8208000842	
4	左把手 Left Handle	8200002943	

E3: EXPLODED PARTS LIST (CNZLA-4)

The diagram illustrates the exploded view of the 3-Grid Component. It consists of seven parts, each represented by a grid of lines. The parts are arranged in a way that shows their relative positions and how they fit together. The parts are labeled with circled numbers 1 through 7. Part 1 is the largest grid at the bottom left. Part 2 is a smaller grid at the bottom right. Part 3 is a large grid in the middle right. Part 4 is a small grid at the top right. Part 5 is a small grid at the top center. Part 6 is a small grid at the top left. Part 7 is a small grid at the top left, slightly offset from part 6.

3-Grid Component		
序号 NO.	名称 Name	物料编码 Part Number
1	浸塑后隔栏 Back Grid	3404000265
2	浸塑右隔栏 Right Grid	3404000274
3	浸塑底隔栏 Bottom Grid	3404000271
4	浸塑前隔栏 Front Grid	3404000269
5	浸塑小隔栏 Little Grid	3404000277
6	浸塑左隔栏 Left Grid	3404000273
7	浸塑竖隔栏 Separation Grid	3404000723

E4: EXPLODED PARTS LIST (CNZLA-4)



Exploded view diagram of the 4-LED Light Component (CNZLA-4). The diagram shows the assembly of five parts:

- 1. Light Box
- 2. Left Light Box Blocking
- 3. LED Light
- 4. Light Cover
- 5. Right Light Box Blocking

4-LED灯组件 4-LED Light Component		
序号 NO.	名称 Name	物料编码 Part Number
1	内灯盒 Light Box	3501001142
2	内灯左端档 Left Light Box Blocking	8200002441
3	LED灯组件 LED Light	3002000633
4	内灯罩 Light Cover	3501001143
5	内灯右端档 Right Light Box Blocking	8200002442

E5: EXPLODED PARTS LIST (CNZLA-4)

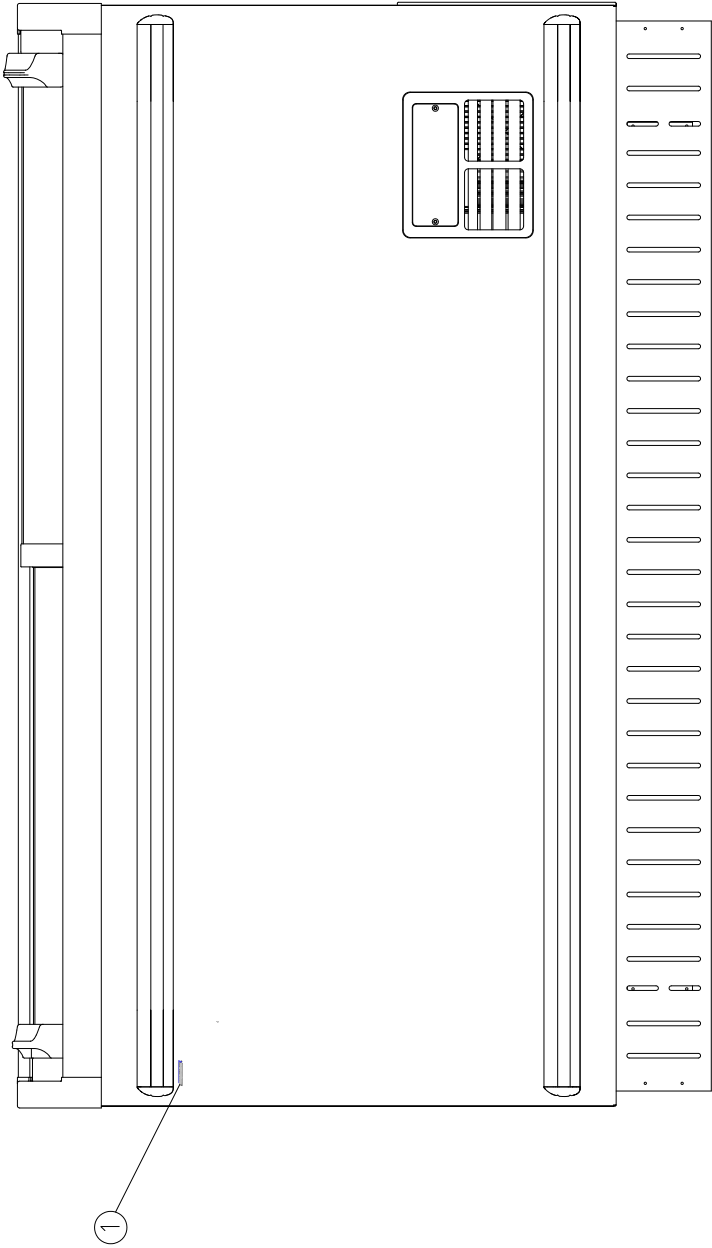
The diagram illustrates the exploded view of the 12-Front Grille Assembly. It includes four main components labeled with circled numbers: 1. Front Grille, 2. Electronic Controller, 3. Switch, and 4. Grille Cover. Each component is shown with its respective part number and a brief description in both English and Chinese.

12-前格栅组件 12-Front Grille Assembly			
序号 NO.	名称 Name	物料编码 Part Number	
1	前格栅 Front Grille	8200002447	
2	电子温控器 Controller	3001000530	
3	开关 Switch	3002000629	
4	温控显示盖板 Controller Cover	8200002451	

E6: EXPLODED PARTS LIST (CNZLA-4)

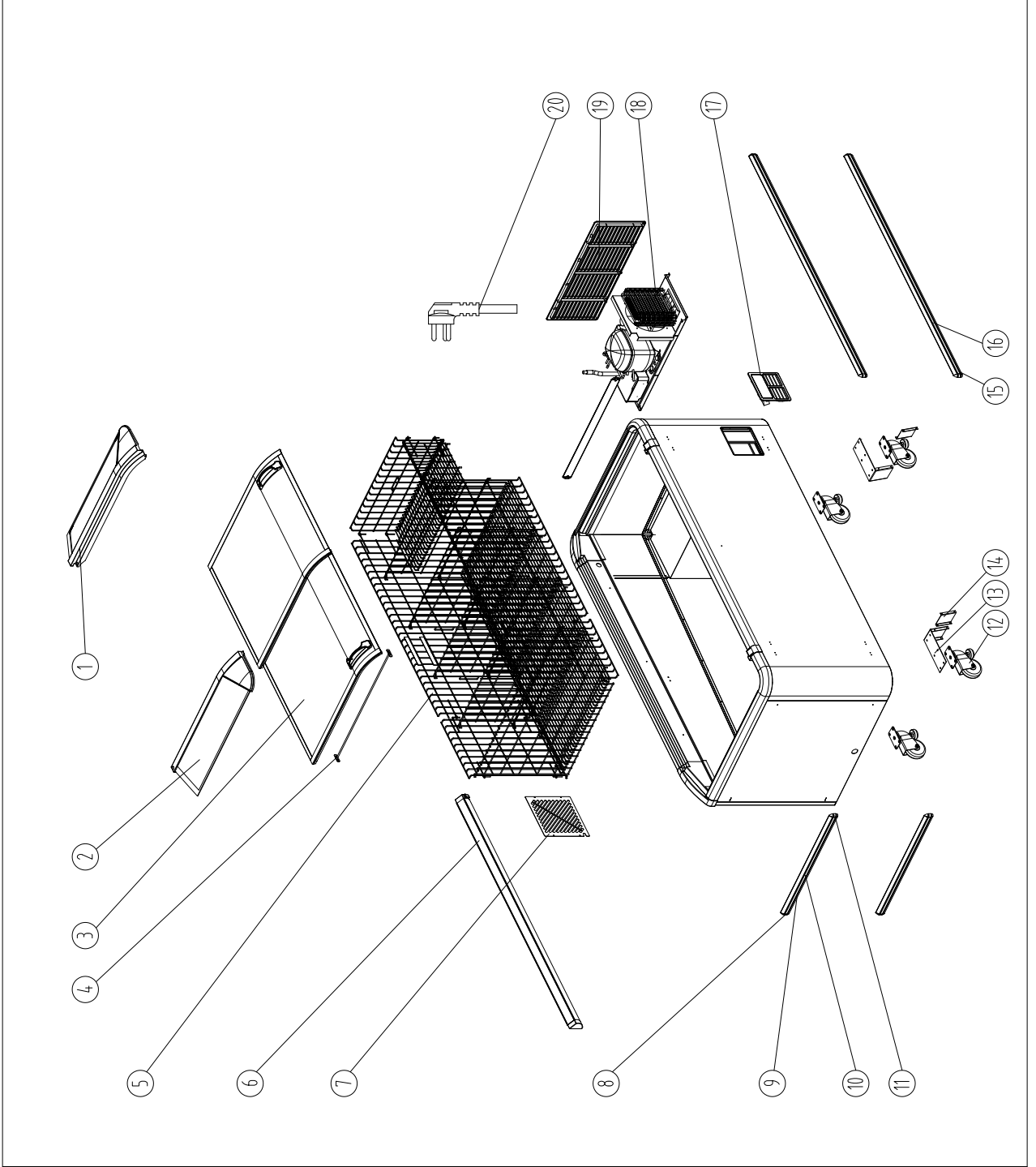
14-Compressor assembly		
序号 NO.	名称 Name	物料编码 Part Number
1	干燥过滤器 Filter	3405500412
2	接水盒 Water Box	8200001882
3	排水管 Drain-pipe	3504400090
4	压缩机 Compressor with Frequency converter	3000001843
5	电磁阀 Solenoid Valve	3004400032
6	冷凝风机 Condensing Fan	3000001675
7	风圈支架 Fan Motor Supporter	8106003414
8	隔风板 Fan Fixed Plate	8106007648
9	外冷凝器 External Condensing coil	3405500411
10	压缩机固定板 Compressor Fixed Plate	8106020391
11	风机固定件 Fan Fastener 变频器固定板	8106002604
12	Frequency converter fixing plate	8106020395

E7: EXPLODED PARTS LIST (CNZLA-4)

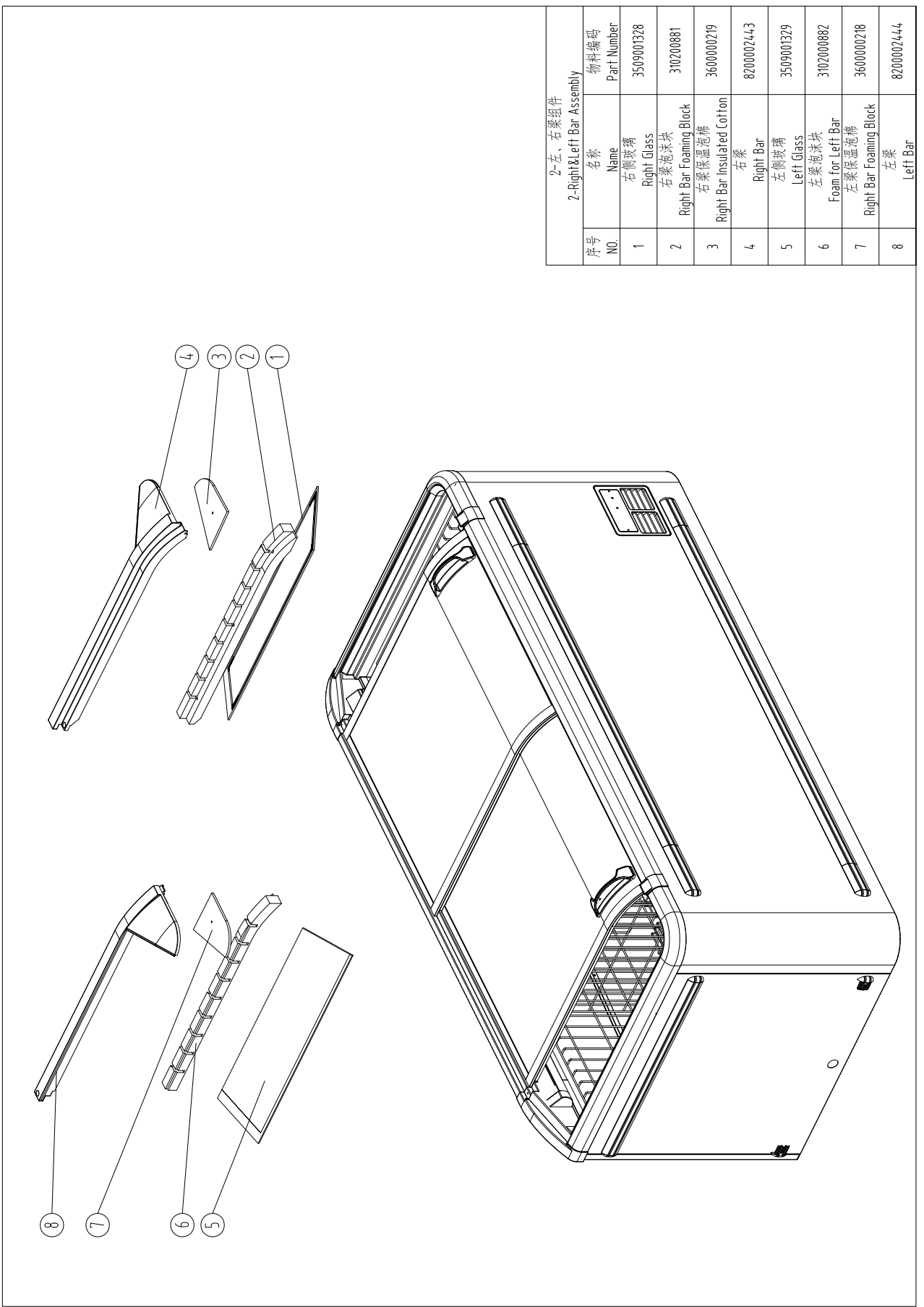
		商标 LOGO	
		序号 NO.	名称 Name
		1	物料编码 Part Number 3107000458 商标 LOGO

E8: EXPLODED PARTS LIST (CNEZLA-6)

序号 NO.	名称 Name	物料编码 Part Number
1	右架组件 Right Bar Assembly	See Page 2
2	左架组件 Left Bar Assembly	See Page 2
3	玻璃门组件 Glass Door Assembly	See Page 3
4	不锈钢拉筋 Stainless Steel Stiffener	34-04-001200
5	隔栏组件 Grid Component	See Page 4
6	LED灯组件 LED Light Component	See Page 5
7	喷粉压缩机室后护板 Back Grille	8107006209
8	防撞条左端挡 Left Bumper Blocking	8200002449
9	侧防撞条底座 Side Bumper Base	3501001229
10	侧防撞条盖条 Side Bumper Cover	3501001233
11	防撞条右端挡 Right Bumper Blocking	8200002450
12	底脚轮 Wheel	34-04-001030
13	踢脚板固定板 Kickplate Fixed Plate	8106020396
14	踢脚板连接板 Kickplate Linking Plate	8106020397
15	前防撞条底座 Front Bumper Base	3501001228
16	前防撞条盖条 Front Bumper Cover	3501001232
17	前格栅组件 Front Grille	See Page 6
18	压缩机组件 Compressor Assembly	See Page 7
19	压机室挡板 compressor Room Baffle	8200002448
20	电源线 Power Line	3009900494



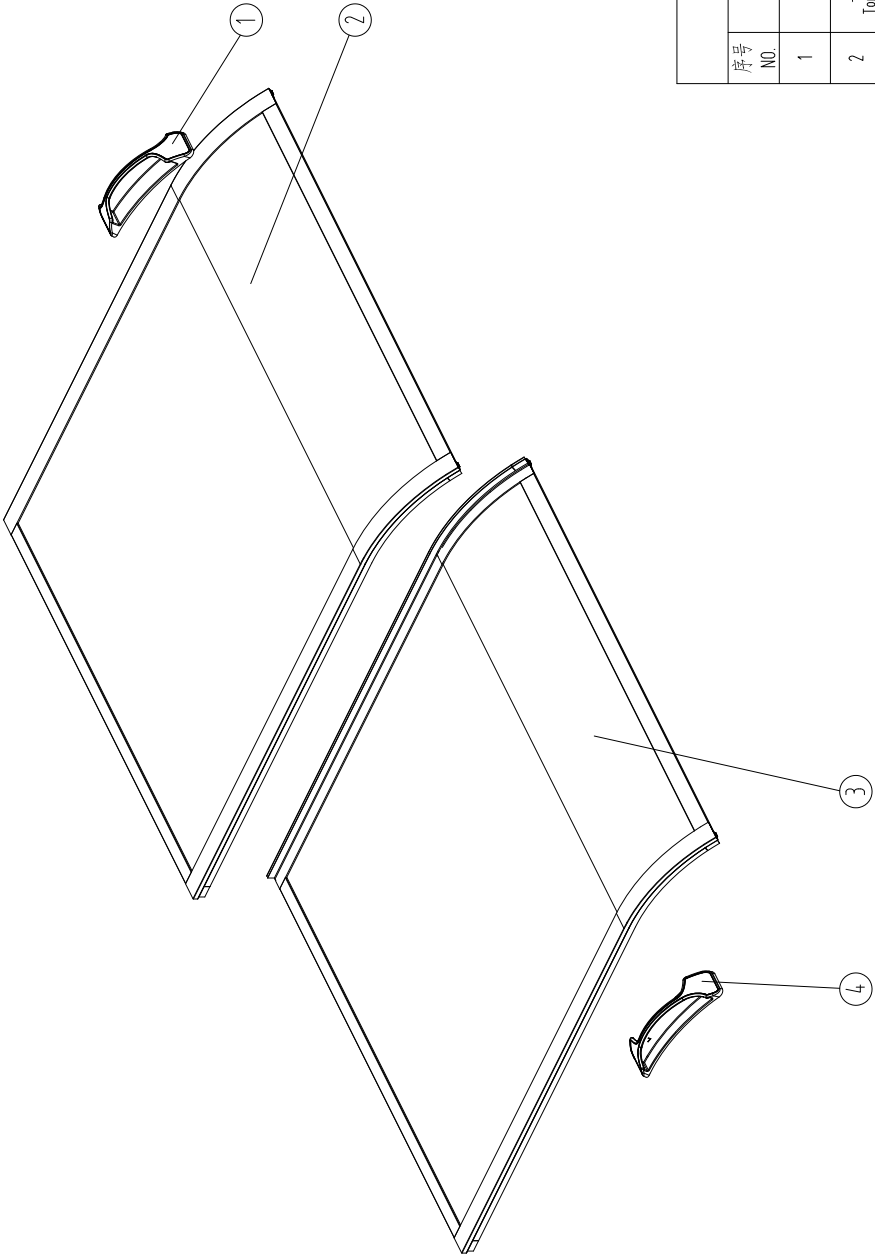
E9: EXPLODED PARTS LIST (CNEZLA-6)



2-左、右梁组件
2-Right&Left Bar Assembly

序号 NO.	名称 Name	物料编码 Part Number
1	右侧玻璃 Right Glass	3509001328
2	右梁泡沫块 Right Bar Foaming Block	310200881
3	右梁保温泡棉 Right Bar Insulated Cotton	3600000219
4	右梁 Right Bar	8200002443
5	左侧玻璃 Left Glass	3509001329
6	左梁泡沫块 Foam for Left Bar	310200882
7	左梁保温泡棉 Left Bar Insulated Cotton	3600000218
8	左梁 Left Bar	8200002444

E10: EXPLODED PARTS LIST (CNEZLA-6)



4-玻璃门组件			
3-Glass Door Assembly			
序号 NO.	名称 Name	物料编码 Part Number	
1	右把手 Right Handle	8200002942	
2	上玻璃门 (带把手) Top Glass Door with handle	8208000841	
3	下玻璃门 (带把手) Bottom Glass Door with Handle	8208000842	
4	左把手 Left Handle	8200002943	

E11: EXPLODED PARTS LIST (CNEZLA-6)

The diagram illustrates the exploded view of the 5-Grid Component. It consists of nine rectangular wire mesh grids of varying sizes and orientations. The parts are labeled with circled numbers 1 through 9, with leader lines pointing to each part. Part 1 is the largest grid at the bottom left. Part 2 is a smaller grid above it. Part 3 is a large grid to the right of part 1. Part 4 is a grid above part 3. Part 5 is a small grid to the right of part 4. Part 6 is a large grid above part 4. Part 7 is a grid to the right of part 6. Part 8 is a small grid above part 7. Part 9 is a grid to the right of part 8.

5-Grid Component		
序号 NO.	名称 Name	物料编码 Part Number
1	浸塑后隔栏 Back Grid	3404007265
2	浸塑后隔栏 Back Grid	3404007266
3	浸塑右隔栏 Right Grid	3404007274
4	浸塑底隔栏 Bottom Grid	3404000721
5	浸塑前隔栏 Front Grid	3404007270
6	浸塑前隔栏 Front Grid	3404007269
7	浸塑小隔栏 Little Grid	3404000727
8	浸塑左隔栏 Left Grid	3404007273
9	浸塑竖隔栏 Separation Grid	3404000723

E12: EXPLODED PARTS LIST (CNEZLA-6)

5

1

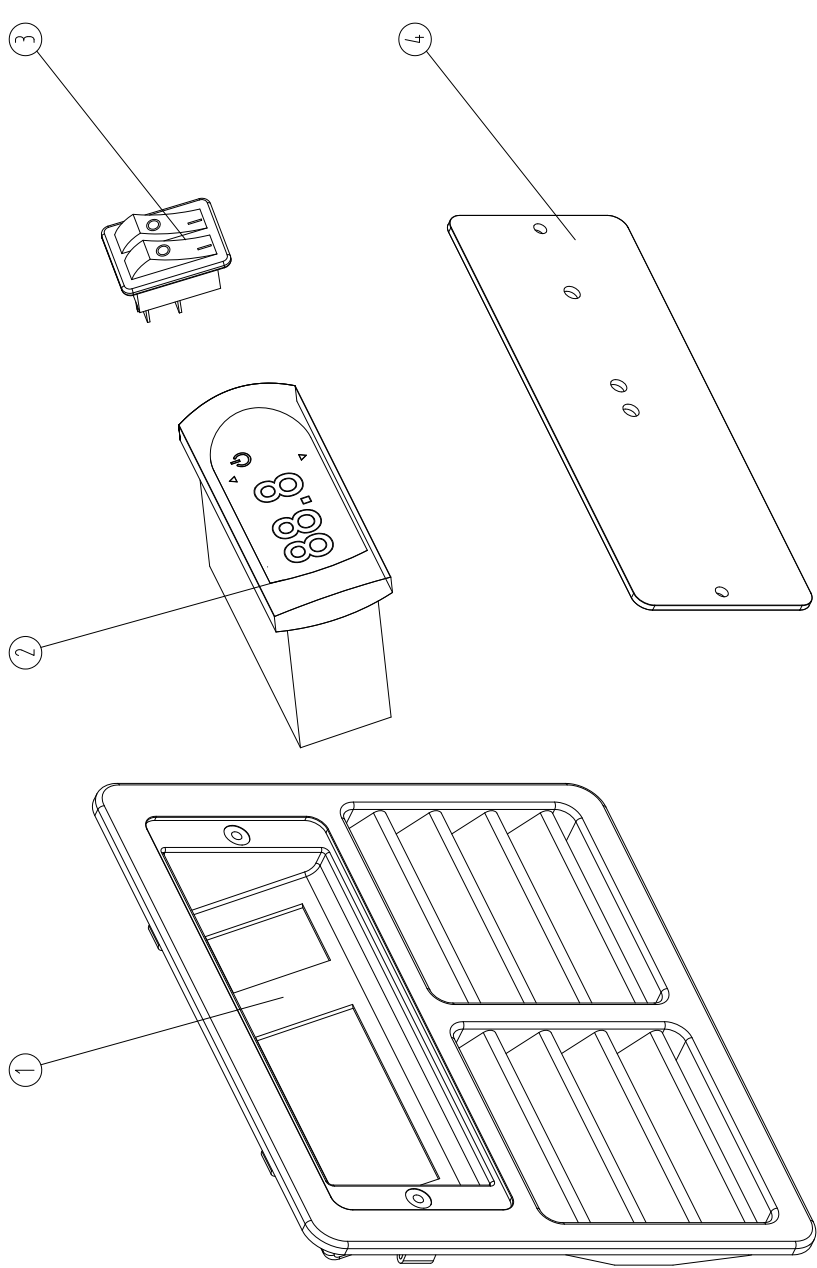
2

3

4

6-LED灯组件		
4-LED Light Component		
序号 NO.	名称 Name	物料编码 Part Number
1	内灯盒 Light Box	3501000877
2	内灯左端档 Left Light Box Blocking	8200002441
3	LED灯组件 LED Light	3002000630
4	内灯罩 Light Cover	3501000878
5	内灯右端档 Right Light Box Blocking	8200002442

E13: EXPLODED PARTS LIST (CNEZLA-6)



17-前格栅组件 12-Front Grille Assembly		
序号 NO.	名称 Name	物料编码 Part Number
1	前格栅 Front Grille	8200002447
2	电子温控器 Controller	3001000530
3	开关 Switch	3002000629
4	温控显示盖板 Controller Cover	8200002451

E14: EXPLODED PARTS LIST (CNEZLA-6)

18-压缩机组件		
14-Compressor assembly		
序号 NO.	名称 Name	物料编码 Part Number
1	干燥过滤器 Filter	3405500412
2	接水盒 Water Box	8200001882
3	排水管 Drain-pipe	3504000090
4	压缩机 Compressor with Frequency converter	3000001843
5	电磁阀 Solenoid Valve	3004000032
6	冷凝风机 Condensing Fan	3000001675
7	风圈支架 Fan Motor Supporter	8106003414
8	隔风板 Fan Fixed Plate	8106007648
9	外冷凝器 External Condensing coil	3405500411
10	压缩机固定板 Compressor Fixed Plate	8106020391
11	风机固定件 Fan Fastener	8106002604
12	变频器固定板 Frequency converter fixing plate	8106020395

E15: EXPLODED PARTS LIST (CNEZLA-6)

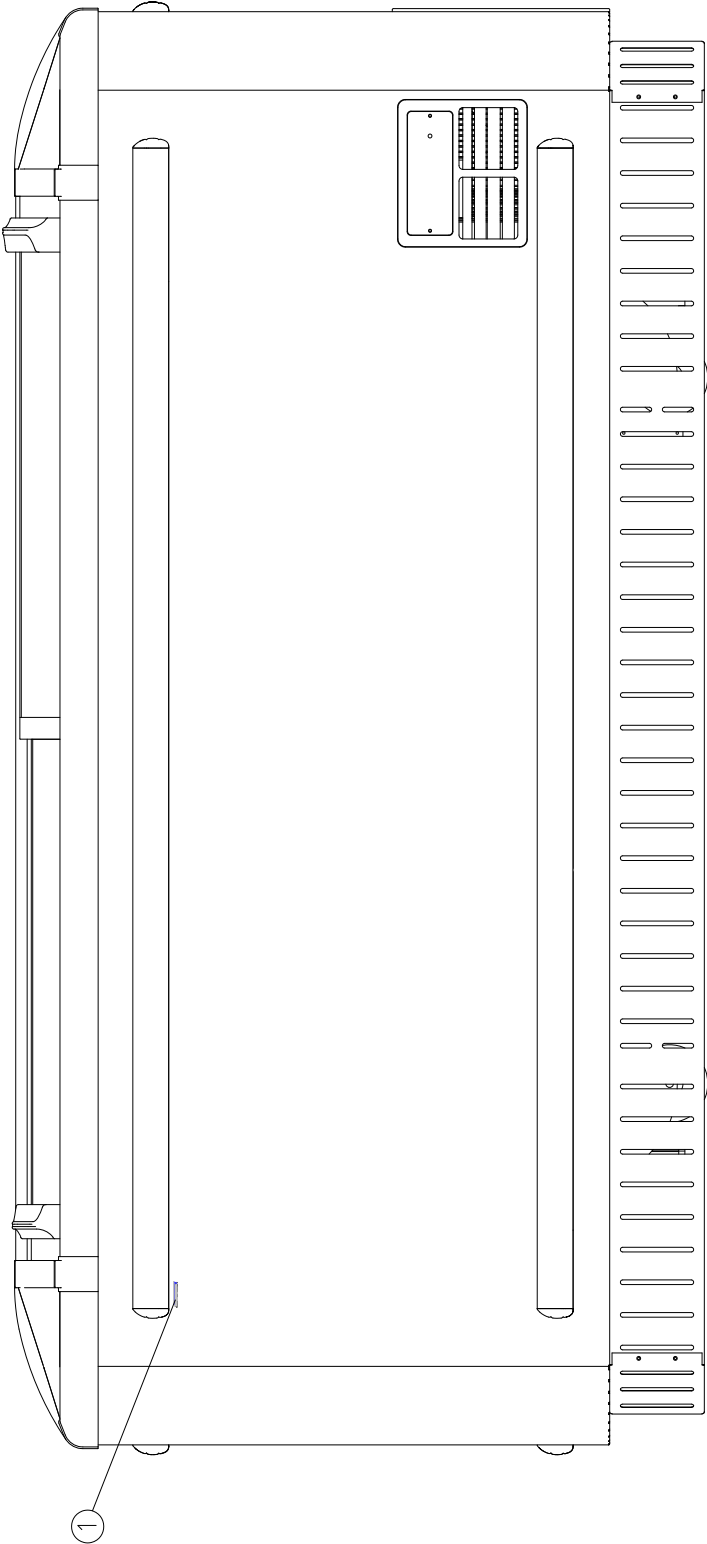
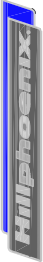


Diagram illustrating the exploded parts list for the Hilphenix device (CNEZLA-6). The diagram shows the main unit with various components, including a control panel and a series of vertical slots. A callout '1' points to a corner bracket on the left side of the main unit.

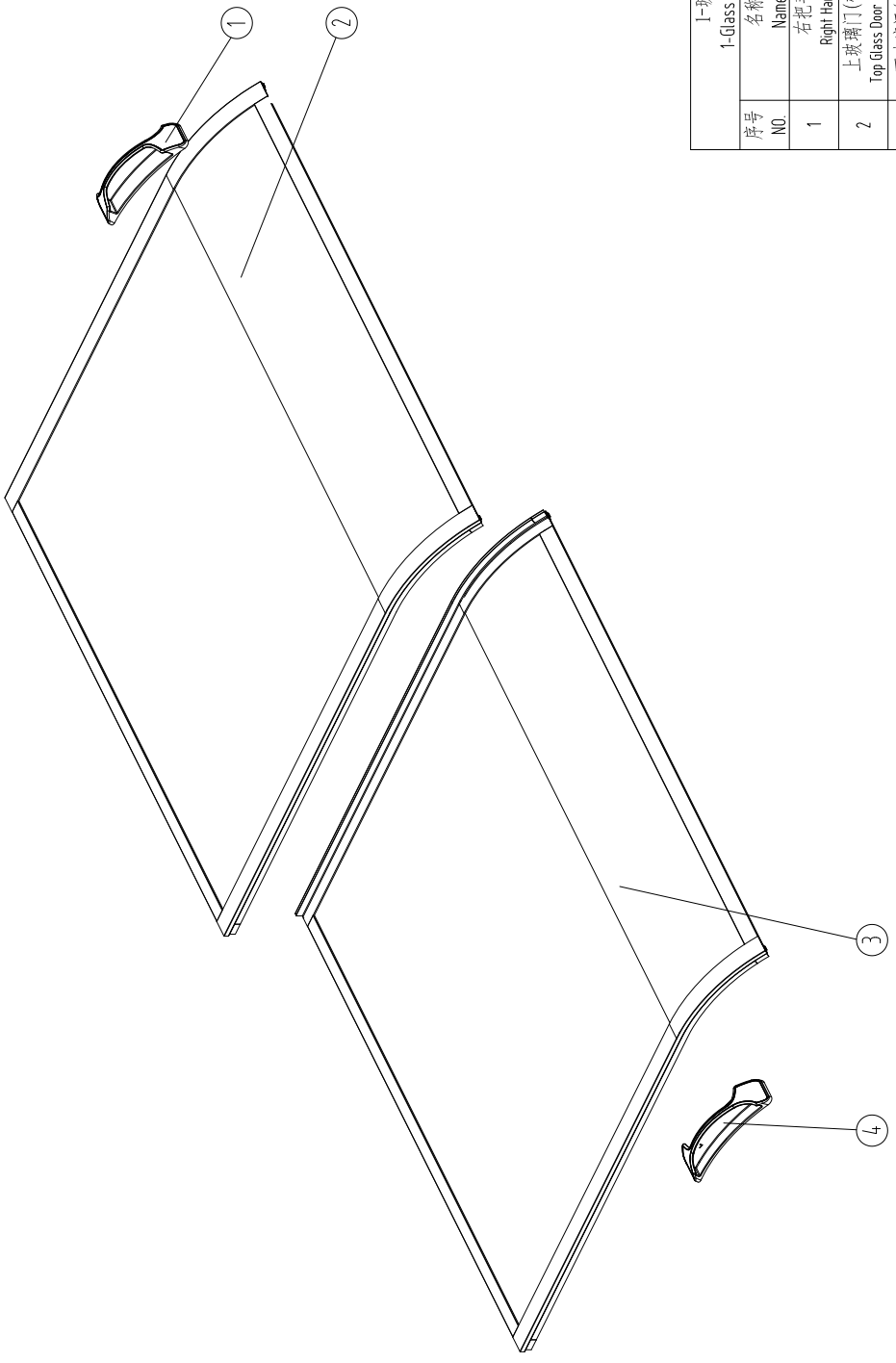
商 标 LOGO	
序号 NO.	名称 Name
1	商 标 LOGO



E16: EXPLODED PARTS LIST (CNZLA-7)

序号 NO.	名称 Name	物料编码 Part Number
1	玻璃门组件 Glass Door Assembly	See Page 2
2	不锈钢拉筋 Stainless Steel Stiffener	3404001200
3	隔栏组件 Grid Component	See Page 3
4	LED灯组件 LED Light Component	See Page 4
5	喷粉压缩机室后护板 Back Grille	8107006209
6	底脚轮 Wheel	3404001030
7	踢脚板固定板 Kickplate Fixed Plate	8106020396
8	踢脚板连接板 Kickplate Linking Plate	8106020397
9	防撞条左端档 Left Bumper Blocking	8200002449
10	前防撞条底座 Front Bumper Base	3501001231
11	前防撞条盖条 Front Bumper Cover	3501001235
12	防撞条右端档 Right Bumper Blocking	8200002450
13	前格栅组件 Front Grille	See Page 5
14	压缩机组件 Compressor Assembly	See Page 7
15	压机室挡板 compressor Room Baffle	8200002448
16	电源线 Power Line	3009900494

E17: EXPLODED PARTS LIST (CNZLA-7)



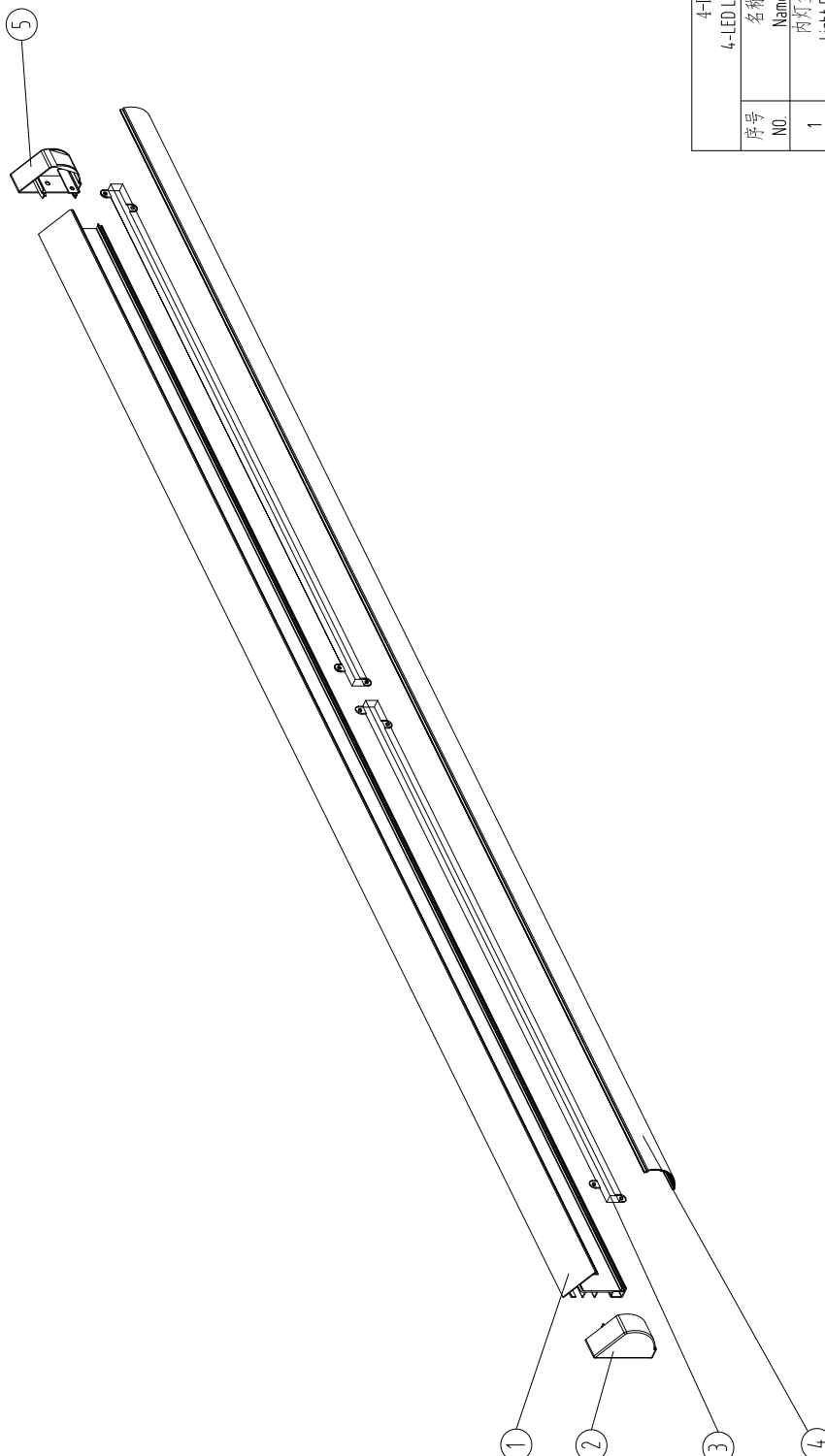
1-玻璃门组件			
1-Glass Door Assembly		物料编码	
序号	名称	Part Number	
NO.	Name		
1	右把手 Right Handle	8200002942	
2	上玻璃门(带把手) Top Glass Door with handle	8208000839	
3	下玻璃门(带把手) Bottom Glass Door with Handle	8208000840	
4	左把手 Left Handle	8200002943	

E18: EXPLODED PARTS LIST (CNZLA-7)

3-Grid Component

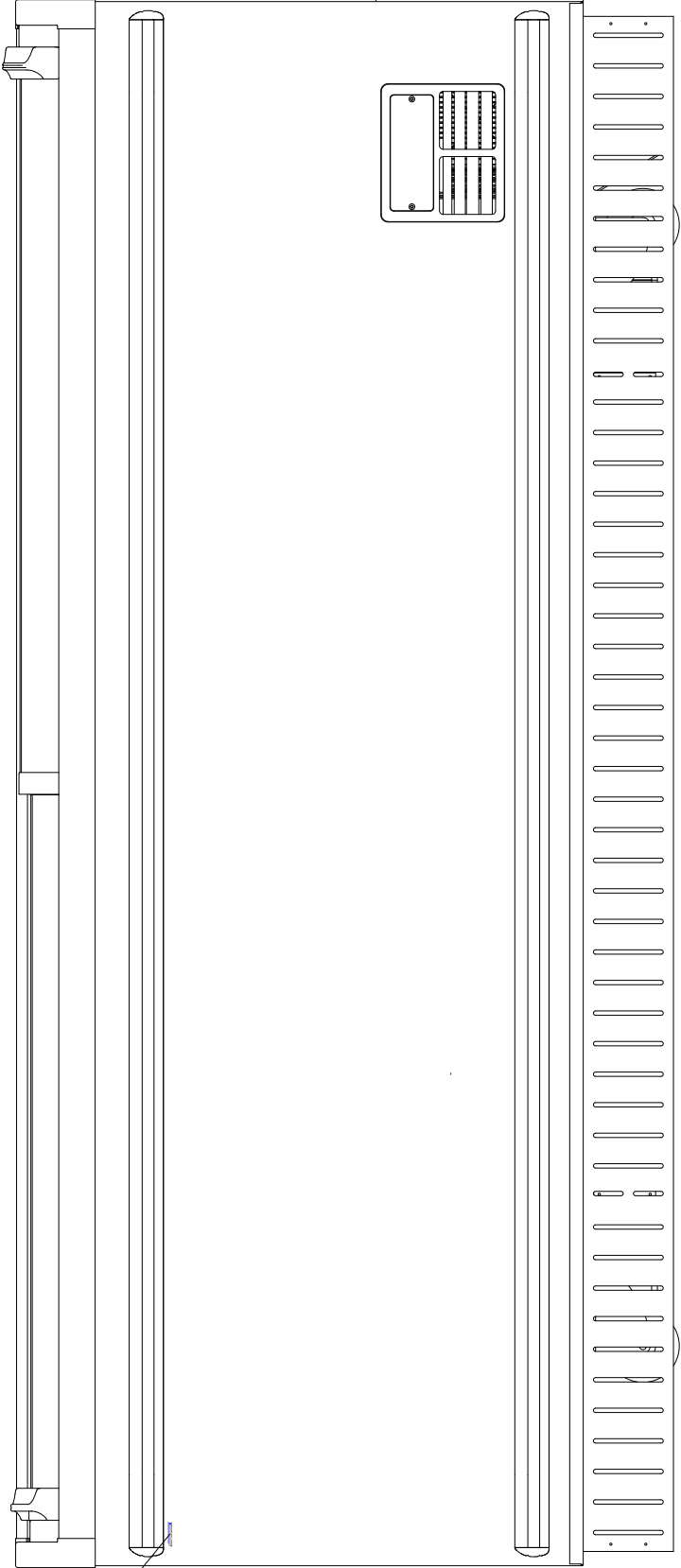
序号 NO.	名称 Name	物料编码 Part Number
1	浸塑后隔栏 Back Grid	3404001265
2	浸塑后隔栏 Back Grid	3404001267
3	浸塑右隔栏 Right Grid	3404001274
4	浸塑底隔栏 Bottom Grid	3404000721
5	浸塑前隔栏 Front Grid	3404001271
6	浸塑前隔栏 Front Grid	3404001269
7	浸塑小隔栏 Little Grid	3404000727
8	浸塑左隔栏 Left Grid	3404001273
9	浸塑竖隔栏 Separation Grid	3404000723

E19: EXPLODED PARTS LIST (CNZLA-7)




4-LED灯组件		
序号 NO.	名称 Name	物料编码 Part Number
1	内灯盒 Light Box	3501000619
2	内灯左端挡 Left Light Box Blocking	8200002441
3	LED灯组件 LED Light	3002000631
4	内灯罩 Light Cover	3501000620
5	内灯右端挡 Right Light Box Blocking	8200002442

E20: EXPLODED PARTS LIST (CNZLA-7)



1

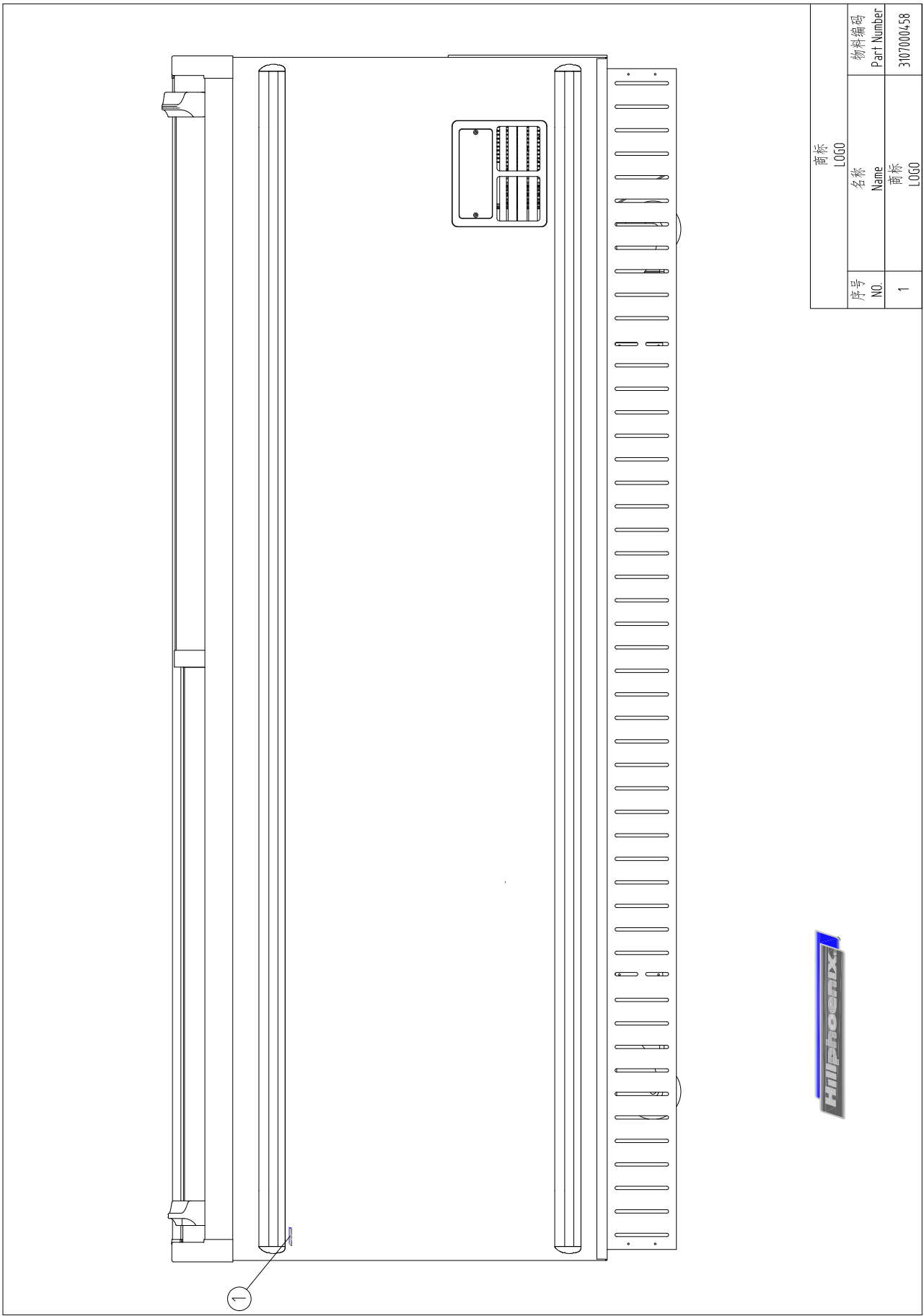



商标 LOGO		
序号 NO.	名称 Name	物料编码 Part Number
1	商标 LOGO	3107000458

E21: EXPLODED PARTS LIST (CNZLA-7)

14-压缩机组件		
14-Compressor assembly		物料编码
序号 NO.	名称 Name	Part Number
1	干燥过滤器 Filter	3405500412
2	接水盒 Water Box	8200001882
3	排水管 Drain-pipe	3504-000090
4	压缩机 Compressor with Frequency converter	3000001844
5	电磁阀 Solenoid Valve	3004-000032
6	冷凝风机 Condensing Fan	3000001675
7	风圈支架 Fan Motor Supporter	8106003414
8	隔风板 Fan Fixed Plate	8106007648
9	外冷凝器 External Condensing coil	3405500411
10	压缩机固定板 Compressor Fixed Plate	8106020391
11	风机固定件 Fan Fastener	8106002604
12	变频器固定板 Frequency converter fixing plate	8106020395

E22: EXPLODED PARTS LIST (CNZLA-7)





商标 LOGO		
序号 NO.	名称 Name	物料编码 Part Number
1	商标 LOGO	3107000458

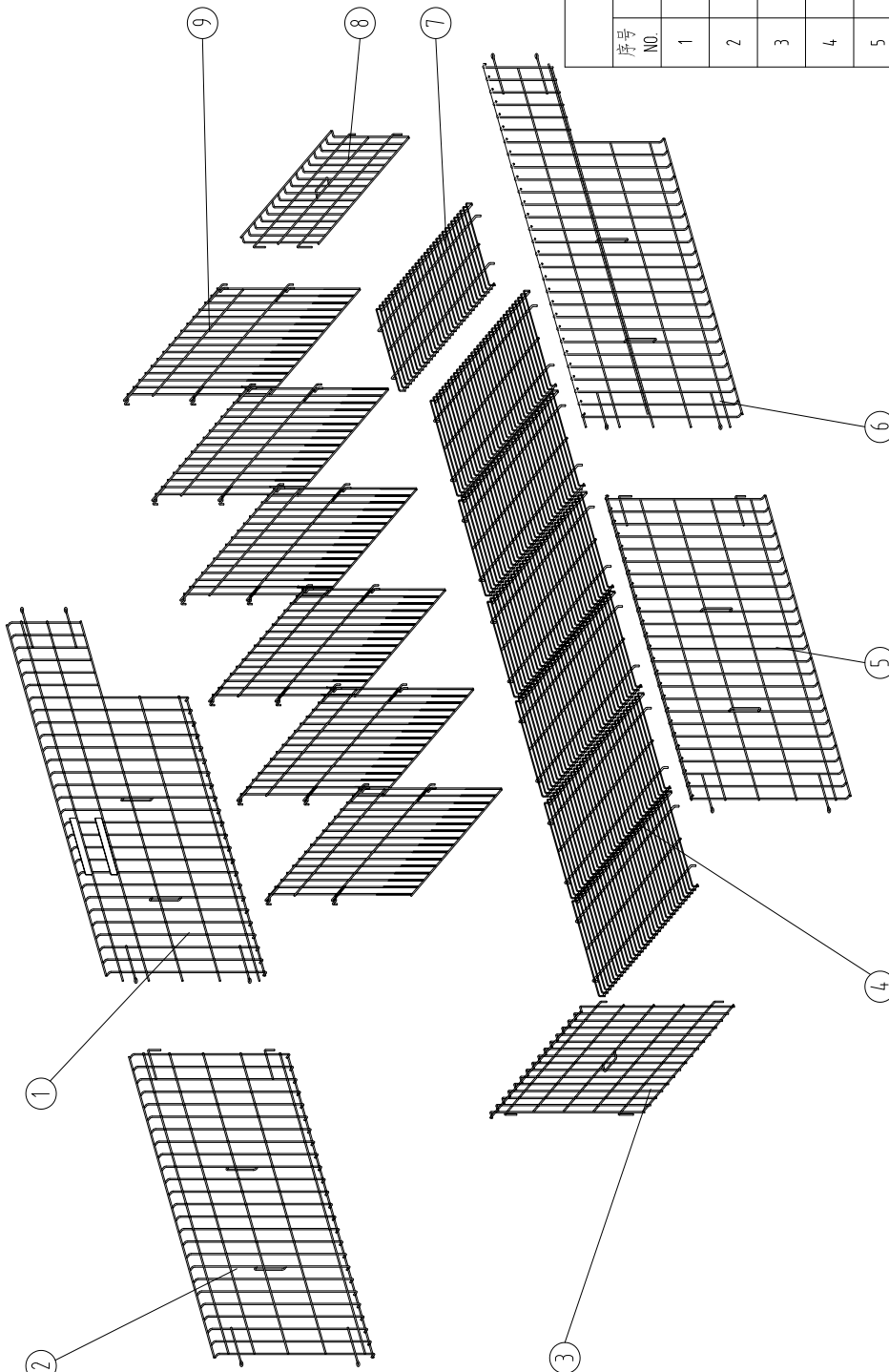
E23: EXPLODED PARTS LIST (CNZLA-8)

序号 NO.	名称 Name	物料编码 Part Number
1	玻璃门组件 Glass Door Assembly	See Page 2
2	不锈钢拉筋 Stainless Steel Stiffener	3404001200
3	隔栏组件 Grid Component	See Page 3
4	LED灯组件 LED Light Component	See Page 4
5	喷粉压缩机室后护板 Back Grille	8107006209
6	底脚轮 Wheel	3404001030
7	踢脚板固定板 Kickplate Fixed Plate	8106020396
8	踢脚板连接板 Kickplate Linking Plate	8106020397
9	防撞条左端档 Left Bumper Blocking	8200002449
10	前防撞条底座 Front Bumper Base	3501001230
11	前防撞条盖条 Front Bumper Cover	3501001234
12	防撞条右端档 Right Bumper Blocking	8200002450
13	前格栅组件 Front Grille	See Page 5
14	压缩机组件 Compressor Assembly	See Page 7
15	压机室挡板 compressor Room Baffle	8200002448
16	电源线 Power Line	3009900494

E24: EXPLODED PARTS LIST (CNZLA-8)

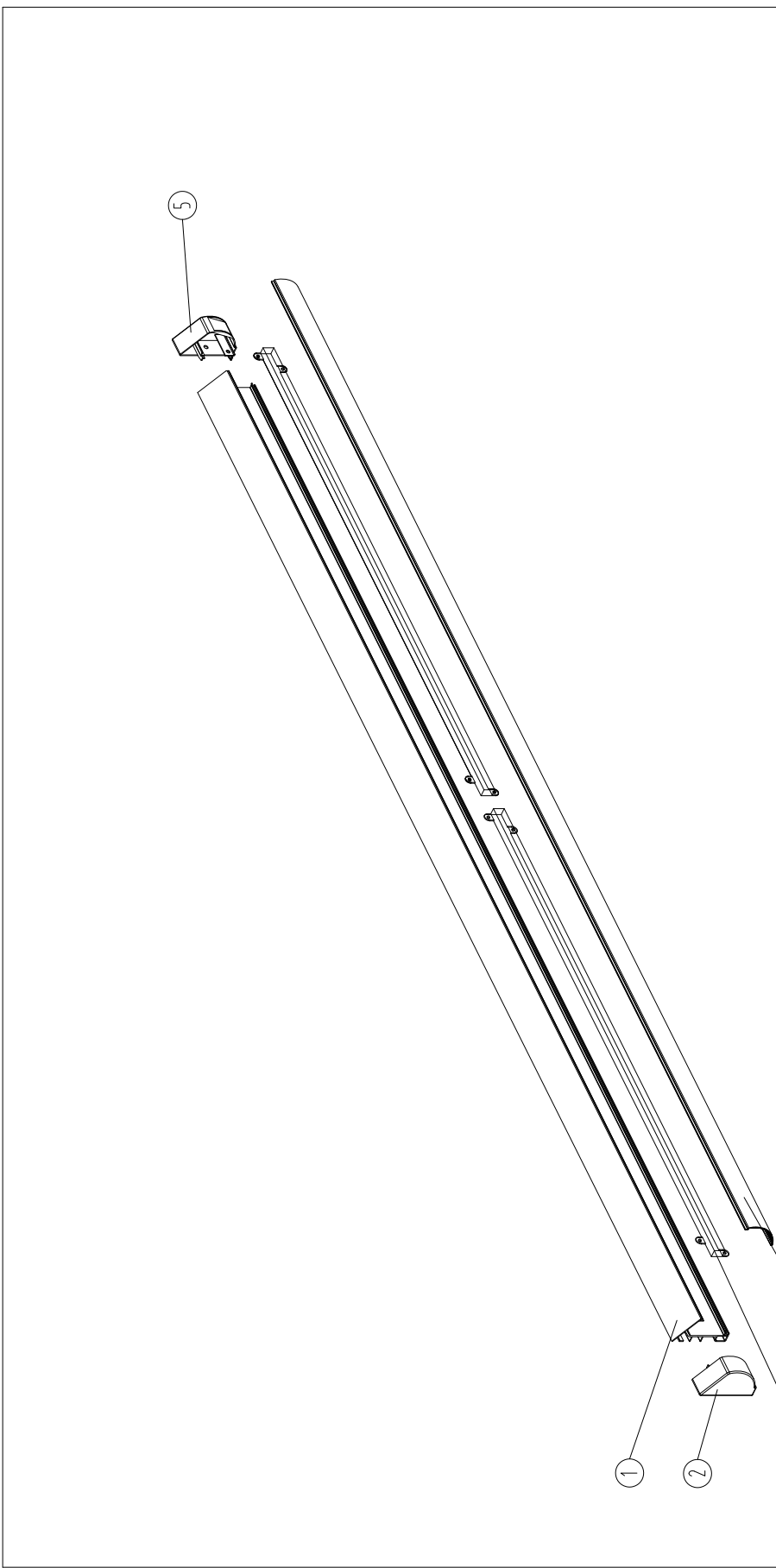
1-玻璃门组件		
1-Glass Door Assembly		
序号	名称	物料编码
NO.	Name	Part Number
1	右把手	8200002942
2	上玻璃门(带把手)	8208001171
3	下玻璃门(带把手)	8208001172
4	左把手	8200002943

E25: EXPLODED PARTS LIST (CNZLA-8)



3-Grid Component		
序号 NO.	名称 Name	物料编码 Part Number
1	浸塑后隔栏 Back Grid	3404001265
2	浸塑后隔栏 Back Grid	3404001268
3	浸塑右隔栏 Right Grid	3404001274
4	浸塑底隔栏 Bottom Grid	3404000721
5	浸塑前隔栏 Front Grid	3404001272
6	浸塑前隔栏 Front Grid	3404001269
7	浸塑小隔栏 Little Grid	3404000727
8	浸塑左隔栏 Left Grid	3404001273
9	浸塑竖隔栏 Separation Grid	3404000723

E26: EXPLODED PARTS LIST (CNZLA-8)



4-LED灯组件 4-LED Light Component		
序号 NO.	名称 Name	物料编码 Part Number
1	内灯盒 Light Box	350001275
2	内灯左端挡 Left Light Box Blocking	8200002441
3	LED灯组件 LED Light	3002000632
4	内灯罩 Light Cover	350001276
5	内灯右端挡 Right Light Box Blocking	8200002442

E27: EXPLODED PARTS LIST (CNZLA-8)

Diagram illustrating the exploded parts list for the 12-Front Grille Assembly (CNZLA-8). The assembly consists of four main components:

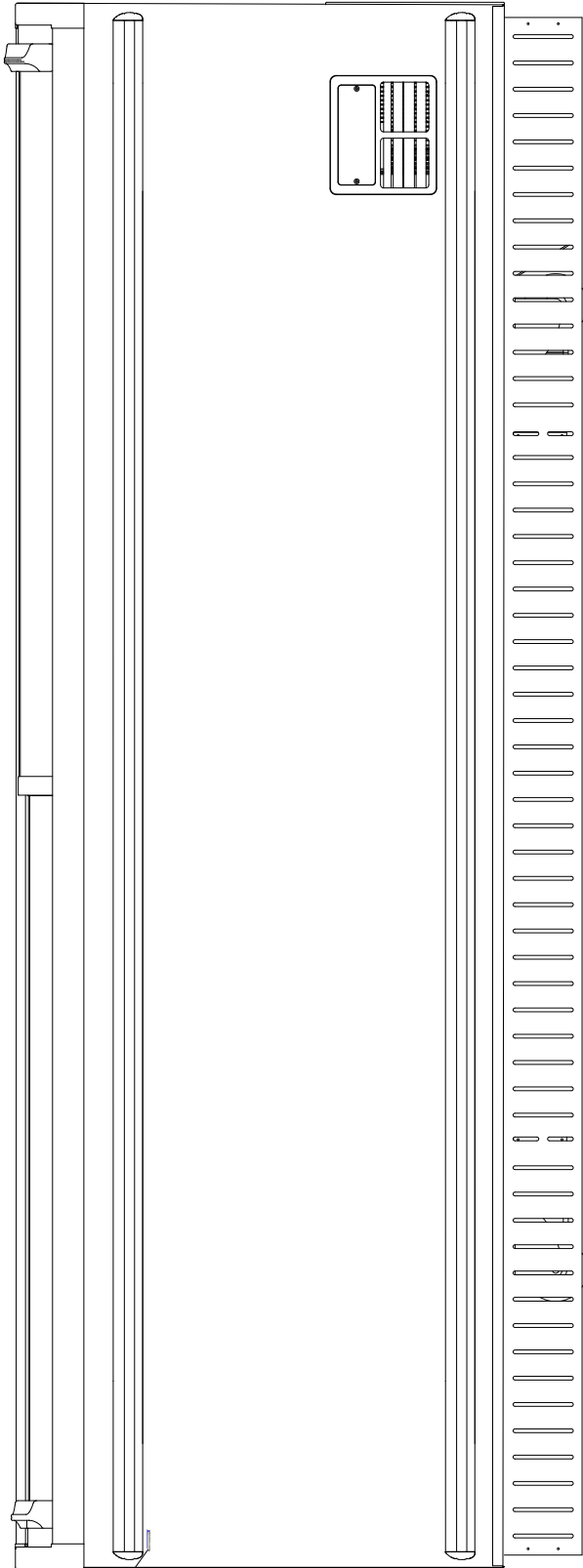
- 1. Front Grille
- 2. Electronic Temperature Controller
- 3. Switch
- 4. Temperature Display Cover

12-前格栅组件 12-Front Grille Assembly		
序号 NO.	名称 Name	物料编码 Part Number
1	前格栅 Front Grille	8200002447
2	电子温控器 Controller	3001000530
3	开关 Switch	3002000629
4	温控显示盖板 Controller Cover	82000002451


E28: EXPLODED PARTS LIST (CNZLA-8)

14-压缩机组件 14-Compressor assembly		
序号 NO.	名称 Name	物料编码 Part Number
1	干燥过滤器 Filter	3405500412
2	接水盒 Water Box	8200001882
3	排水管 Drain-pipe	3504000090
4	压缩机 Compressor with Frequency converter	3000001844
5	电磁阀 Solenoid Valve	3004000032
6	冷凝风机 Condensing Fan	3000001675
7	风圈支架 Fan Motor Supporter	8106003414
8	隔风板 Fan Fixed Plate	8106007648
9	外冷凝器 External Condensing coil	3405500411
10	压缩机固定板 Compressor Fixed Plate	8106020391
11	风机固定件 Fan Fastener	8106002604
12	变频器固定板 Frequency converter fixing plate	8106020395

E29: EXPLODED PARTS LIST (CNZLA-8)



1



商 标 LOGO		物料编码 Part Number
序号 NO.	名称 Name	商 标 LOGO
1		31070004.58



Hill PHOENIX, Inc.
Hereinafter Referred To As Manufacturer

LIMITED WARRANTY

GENERAL WARRANTY

Manufacturer's products are warranted to be free from defects in materials and workmanship under normal use and maintenance for fourteen months from date of shipment from manufacturer (the "Base Warranty Period"). In the event of a qualifying warranty claim, a new or rebuilt part to replace any defective part will be provided without charge. The replacement part is covered under this warranty for the remainder of the applicable Base Warranty Period. In order to be eligible for warranty coverage, customer must: (i) notify Manufacturer promptly upon discovery of a warrant defect, and (ii) comply with the warranty claim procedures provided by Manufacturer from time to time.

This equipment warranty does not include labor or other costs incurred for diagnosing, repairing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts.

The warranty shall not apply:

1. To any unit or any part thereof which has been subject to accident, alteration, negligence, misuse or abuse, or which has not been operated in accordance with the manufacturer's recommendations, or in conditions outside of Manufacturer's specifications, or if the serial number of the unit has been altered, defaced, or removed.
2. When the unit, or any part thereof, is damaged by fire, flood, or other act of God.
3. To products that are impaired or damaged due to improper installation.
4. When installation and startup forms are not properly completed or returned within two weeks after startup.
5. If the defective part is not returned to the Manufacturer.
6. To service, maintenance or wear and tear parts (such as lights, starters and ballasts)

MODIFICATIONS TO GENERAL WARRANTY

The following sets forth certain modifications to the General Warranty for specific products of Manufacturer:

DISPLAY CASE AND SPECIALTY PRODUCTS CLEARVOYANT® LED LIGHTING

The warranty period for Clearvoyant LED lighting components within the Clearvoyant lighting system is five years from date of shipment.

REMEDY LIMITATION/DAMAGES EXCLUSION

THE REMEDY OF REPAIR OR PROVISION OF A REPLACEMENT PART WITHOUT CHARGE SHALL BE THE EXCLUSIVE REMEDY FOR ANY WARRANTY CLAIM HEREUNDER. WITHOUT LIMITING THE FOREGOING, MANUFACTURER SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING LOSS OF PROFIT, LABOR COST, LOSS OF REFRIGERANT OR FOOD PRODUCTS.

EXCLUSIVE WARRANTY

THE FOREGOING WARRANTY IS THE EXCLUSIVE WARRANTY WITH RESPECT TO THE PRODUCTS. ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED. NO IMPLIED WARRANTY SHALL BE DEEMED CREATED BY COURSE OF DEALING OR USAGE OF TRADE. NO OTHER PERSON IS AUTHORIZED TO EXPAND OR CREATE ANY OBLIGATION GREATER THAN OR MORE EXPANSIVE THAN THE WARRANTY PROVIDED HEREIN.

Submit warranty claims to:

**Hillphoenix Refrigeration & Power
Systems Division**
2016 Gees Mill Road
Conyers, GA 30013
Warranty / Service
Phone: 1-833-280-5714

Hillphoenix Display Case Division
1925 Ruffin Mill Road
Colonial Heights, VA 23834
Warranty / Service
Phone: 1-833-280-5714

Hillphoenix Specialty Products Division
703 Franklin Street
Keosauqua, IA 52565
Warranty / Service
Phone: 1-833-280-5714

Warning

Maintenance & Case Care

When cleaning cases the following must be performed PRIOR to cleaning:

To avoid electrical shock, be sure all electric power is turned off before cleaning. In some installations, more than one switch may have to be turned off to completely de-energize the case.

Do not spray cleaning solution or water directly on fan motors or any electrical connections.

All lighting receptacles must be dried off prior to insertion and re-energizing the lighting circuit.

Please refer to the Use and Maintenance section of this installation manual.

Hillphoenix[®]

a **DOVER** company

Tel: 804-526-4455

1925 Ruffin Mill Rd, Colonial Heights, VA 23834

Due to our commitment to continuous improvement, all specifications are subject to change without notice.

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