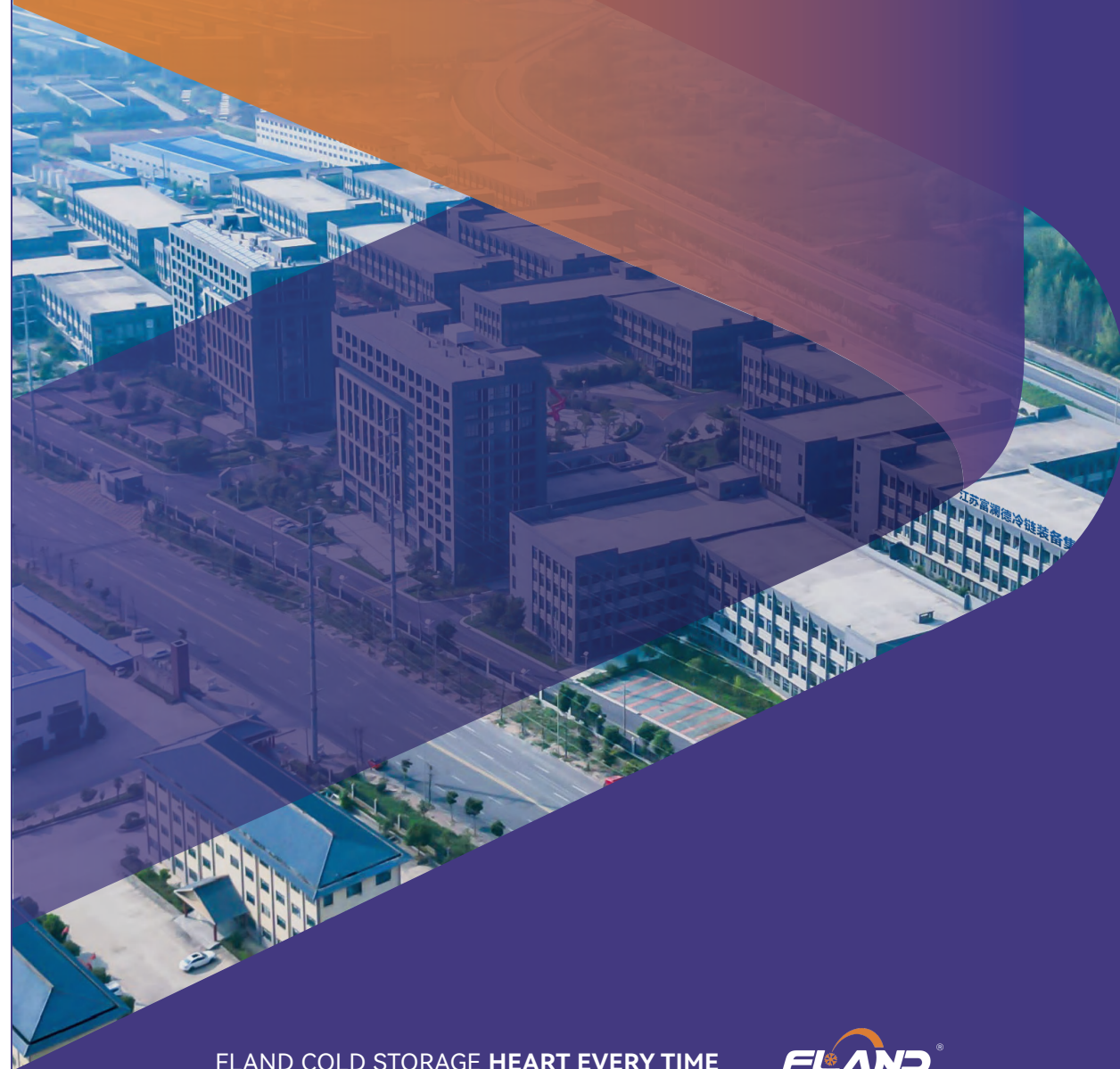


# COLD STORAGE PRODUCT SELECTION MANUAL



FLAND COLD STORAGE HEART EVERY TIME



FLAND  
REFRIGERATION  
TECHNOLOGY CO., LTD



FLAND COLD STORAGE HEART EVERY TIME

# COMPANY INTRODUCTION

## SOURCE FACTORY

Jiangsu, Anhui, Chongqing, and Guangdong have established production bases.

## 10000+

Undertakes the construction of over 10,000 cold storage units each year.

## 100+

Exports to the United States, the United Kingdom, and over 100 countries.

## PREFERRED BRAND

Ranked first in the top ten brands of the cold storage industry for 2022.

## 3600+

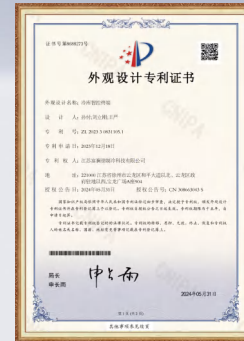
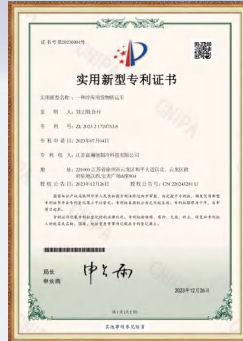
3600+ installation service Nationwide.

## 100+

Honored with hundreds of patents, software copyrights, and certifications.



# CERTIFICATE DISPLAY



# 01

## COLD STORAGE SERIES

SMART COLD STORAGE [4/P] [5/P]

GLASS DOOR COLD STORAGE [6/P] [7/P]

STAINLESS STEEL COLD STORAGE [8/P] [9/P]

CONTAINER COLD STORAGE [10/P] [11/P]

NEW ENERGY COLD STORAGE [12/P] [13/P]

ELECTRIC TRICYCLE COLD STORAGE [14/P] [15/P]

FLAND DIGITAL INTELLIGENT COLD CHAIN CABIN [16/P] [17/P]

LARGE-SCALE CUSTOM COLD STORAGE [18/P] [19/P]

SMALL CUSTOM COLD STORAGE [20/P] [21/P]

# 02

## COLD STORAGE EQUIPMENT AND MAINTENANCE SYSTEM

HIGH EFFICIENCY ENERGY-SAVING UNIT [22/P] [23/P]

HIGH EFFICIENCY AND ENERGY SAVING COOLING FAN [24/P]

FLAND COLD STORAGE ENCLOSURE SYSTEM [25/P]

POLYURETHANE COLD STORAGE PANELS [26/P]

COLD STORAGE DOOR [27/P]

INTELLIGENT CONTROLLER [28/P]

INTRODUCTION TO COLD CLOUD FEATURES [29/P]

MOBILE OPERATION INTERFACE [30/P]

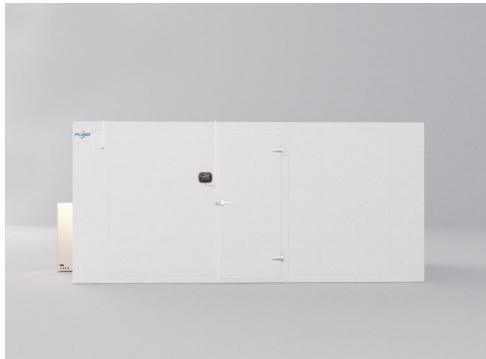
# SMART COLD STORAGE

Standardized cold storage covering 13.2 cubic meters to 1000 cubic meters.



BEST-SELLING SIZE SPECIFICATIONS (CUSTOMIZABLE SIZES)			
TEMPERATURE RANGE	-25°C~10°C (CUSTOMIZABLE)	INTELLIGENTIZATION	Fland Cold Cloud/ECO energy-saving /AI health diagnosis
VOLTAGE	220V / 380V (CUSTOMIZABLE)	POWER CONSUMPTION	about 10 degrees Celsius per day
SIZE	13.2m <sup>3</sup> , 3m×2m×2.2m (CUSTOMIZABLE)	CARGO CAPACITY	2-3 tons
REFRIGERATING CAPACITY	1.9KW / 4.3KW	COOLING TIME	30 minutes (25°C, empty warehouse)

# PRODUCT SHOWCASE



## PRACTICAL CASE DEMONSTRATION



- Covering the temperature range from  $-18^{\circ}\text{C}$  to  $10^{\circ}\text{C}$  in full, capable of freezing and refrigerating, with dual functions in one machine.
- The new generation of B1-level rigid polyurethane core material, with a thermal conductivity of  $\leq 0.024\text{W}/(\text{M}\cdot\text{K})$ , and an energy-saving improvement of 13% to 26%.
- Integrated cold source, cooling capacity type air cooler, intelligent electronic control system, high system matching degree, and energy-saving up to 20% - 30%.

# GLASS DOOR COLD STORAGE

Usage Scenario Examples: Display and ingredient categories in supermarkets.



BEST-SELLING SIZE SPECIFICATIONS (CUSTOMIZABLE SIZES)			
TEMPERATURE RANGE	-18°C~10°C (CUSTOMIZABLE)	COLD SOURCE	Fland High-Efficiency Cold Source (FA2-25)
VOLTAGE	220V / 380V (CUSTOMIZABLE)	INTELLIGENCE	Fland Cold Cloud/ECO energy-saving /AI health diagnosis
SIZE	3×2×2.5M (CUSTOMIZABLE)	COOLING TIME	15 minutes (-5°C, empty warehouse)
GLASS DOOR	4 DOORS (CUSTOMIZABLE)		

● WAREHOUSE USAGE CASE



● LARGE MALL USAGE CASE



● FRESH FOOD SUPERMARKET USAGE CASE



# PRODUCT SHOWCASE



FRONT VIEW ▲



SIDE VIEW ▲

The special air cooler is designed with a large area and low wind speed on both sides to maintain the appropriate temperature and humidity and make the fresh flowers and fruits and vegetables fresher.

Fland super preservation technology reduces the production of ethylene through the oscillation of water molecules, making the fresh flowers last longer.

The double-layer vacuum heated anti-fog tempered glass and LED lights provide a comprehensive display with outstanding effects.

According to the on-site situation of customers, customized design is carried out to meet various size requirements of customers

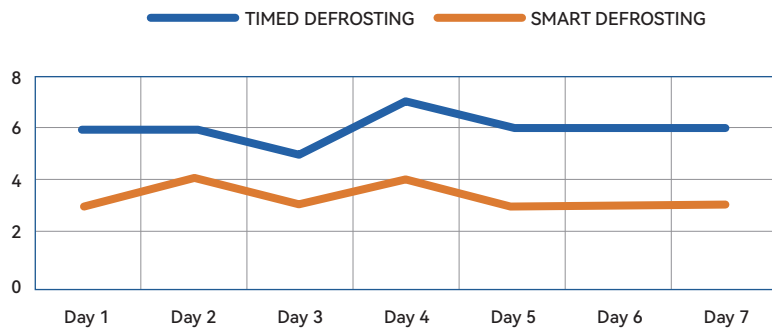
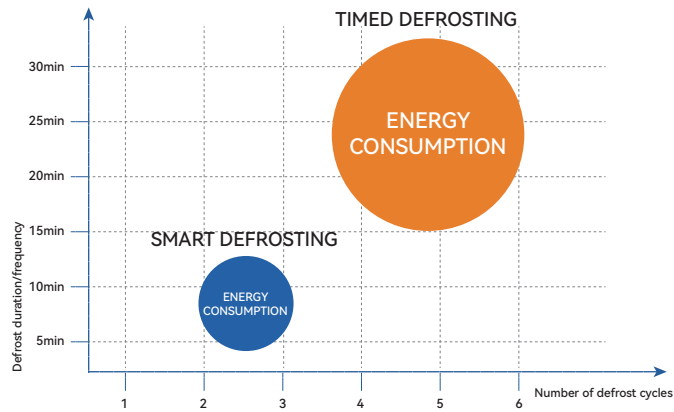
# STAINLESS STEEL COLD STORAGE

Specially designed and developed for chain catering hotels.



BEST-SELLING SIZE SPECIFICATIONS (CUSTOMIZABLE SIZES)			
TEMPERATURE RANGE	-25°C ~10°C (CUSTOMIZABLE)	COLD SOURCE	Fland High-Efficiency Cold Source (FA2-25)
VOLTAGE	220V / 380V (CUSTOMIZABLE)	PANEL	304 Stainless Steel, 0.8mm Thickness
SIZE	3×2×2.5M (CUSTOMIZABLE)	REFRIGERANT	R404A/R507

SECOND-GENERATION INTELLIGENT DEFROSTING TECHNOLOGY WITH ENERGY CONSUMPTION REDUCED BY 80%.



FRESH FOOD SUPERMARKET USAGE CASE



LAO NIANG JIU CATERING CO.,LTD.



# CONTAINER COLD STORAGE

Suitable for use in farms, construction sites, fields, and other locations.



BEST-SELLING SIZE SPECIFICATIONS (CUSTOMIZABLE SIZES)			
TEMPERATURE RANGE	-18°C~10°C (CUSTOMIZABLE)	INTELLIGENCE	Fland Cold Cloud/ECO energy-saving /AI health diagnosis
VOLTAGE	220V / 380V (CUSTOMIZABLE)	ELECTRICITY CONSUMPTION	Approximately 30 kWh/day
SIZE	20FT:6058 X 2550 X 2926 MM 40FT:12192 X 2550 X 2926 MM	CARGO CAPACITY	5-12 tons
COOLING CAPACITY	4.5KW (20 FT) / 6.5KW (40 FT)	COOLING TIME	30 minutes (25°C, empty warehouse)

The entire machine is designed and factory-integrated, ready for immediate use upon delivery and installation; the Fuland intelligent hot gas defrosting unit, with electronic expansion valve control and intelligent defrosting technology, saves 30% energy;

Cold boxes are flexible to use and can be relocated without the need for approval. Based on market demand, they can be quickly deployed in batches.

By employing various cold storage combinations, the needs of each link in the cold chain, such as pre-cooling, quick freezing, cooling, and refrigeration, can be met.



● **FISHERY WHARF CASE**

● **TOURISM-ORIENTED FARM EXAMPLES**



# NEW ENERGY COLD STORAGE

Fland 100% Energy-saving Cold Storage: Photovoltaic power generation and energy storage, efficient cold storage and temperature control.



## BEST-SELLING SIZE SPECIFICATIONS (CUSTOMIZABLE SIZES)

TEMPERATURE RANGE	-18°C~10°C (CUSTOMIZABLE)	INTELLIGENT FEATURES	Fland Cold Cloud/ECO energy-saving /AI health diagnosis
VOLTAGE	220V / 380V (CUSTOMIZABLE)	POWER CONSUMPTION	Approximately 30 kWh/day
SIZE	Customizable in 20-foot and 40-foot sizes	CARGO CAPACITY	5-12 tons
COOLING CAPACITY	4.5KW (20-foot) / 6.5KW (40-foot)	COOLING TIME	30 minutes (25°C, empty warehouse)

# SOLAR PANEL

Photovoltaic power generation combined with an 80Ah energy storage system ensures the stable and reliable operation of the direct-drive refrigeration system, providing a continuous and steady supply of energy.

-4°C efficient phase change cold storage agent, continuously and lastingly provides passive temperature control for the cold storage. Remote power monitoring, environmental sensing, mobile phone control, and dynamic energy allocation.



▲ SOLAR PANEL

## ORCHARD ZERO-DISTANCE COLD STORAGE CASE

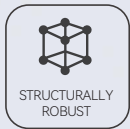


## VEGETABLE FARM ZERO-DISTANCE COLD STORAGE CASE



# ELECTRIC TRICYCLE COLD STORAGE

Suitable for the first and last mile of cold chain logistics distribution.



SPECIFICATION PARAMETER			
ELECTRIC VEHICLE FRAME	2930mm (L) × 1040mm (W) × 1740mm (H)	CARGO CAPACITY	approximately 250–500 kg
INSULATION BOX	1500mm (L) × 1000mm (W) × 1000mm (H)	COOLING TIME	Cooling Capacity: 1920W Power: 700W
BATTERY	60V58AH Battery Pack (5 units) 72V58AH Battery Pack (6 units) Approximate range of 60 kilometers when unloaded Cooling duration of about 6 hours (-18°C~5°C adjustable)	SPECIFICATIONS	Optional models: FLD-150S/FLD-180S

# PRODUCT SHOWCASE



Integrated mobile cold source design, incorporating the condenser, evaporator, and electrical control system, compact size, low power consumption, and high energy efficiency;

The box body has an aluminum alloy frame structure, solid and sturdy construction, not afraid of mobile jolts; the bottom of the body is made of stainless steel material, meeting food-grade requirements, durable and easy to clean;

Available in single-temperature, dual-temperature, freezing and refrigeration, and other specifications, supporting customization in various sizes.



## SUPPORT SEPARATE SALES

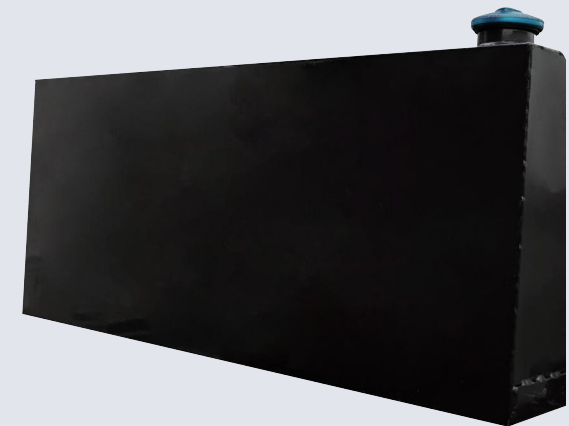


● THE SEPARATE CARGO BOX OF AN ELECTRIC TRICYCLE



● CARGO COMPARTMENT WITH REFRIGERATION UNIT

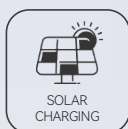
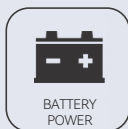
## HYBRID POWER OPTION AVAILABLE



- · ADD 40L FUEL TANK.
- · THE RANGE CAN REACH ABOUT 200KM.

# FLAND DIGITAL INTELLIGENT COLD CHAIN CABIN

Lock in Freshness Every Second

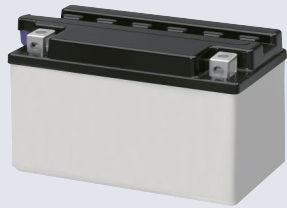


## BEST-SELLING SIZE SPECIFICATIONS

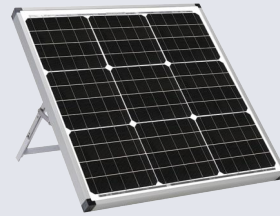
TEMPERATURE RANGE	-20°C ~10°C	COOLING METHODS	Battery Power, Solar Panel, DC Inverter
VOLTAGE	Lithium Battery 64V 50AH	INTERNAL VOLUME	1000L
SIZE	1.8×1.2×1.1M	COOLING DURATION	10H

Fland Digital Intelligent Cold Chain Cabin can be placed in containers,vans,tricycle racks,pickup trucks,or used at shop entrances as a replacement for cold cabinets.It features an integrated design that allows for vehicle mounting,stacking,and convenient handling.

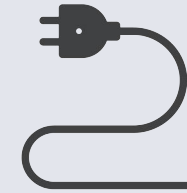
● **MULTI-PATH POWER SUPPLY SYSTEM**



▲ BATTERY POWER



▲ SOLAR CHARGING



▲ PLUG-IN POWER

● **NO ADDITIONAL QUALIFICATIONS REQUIRED,INSTANTLY TRANSFORM INTO A COLD CHAIN LOGISTICS VEHICLE.**

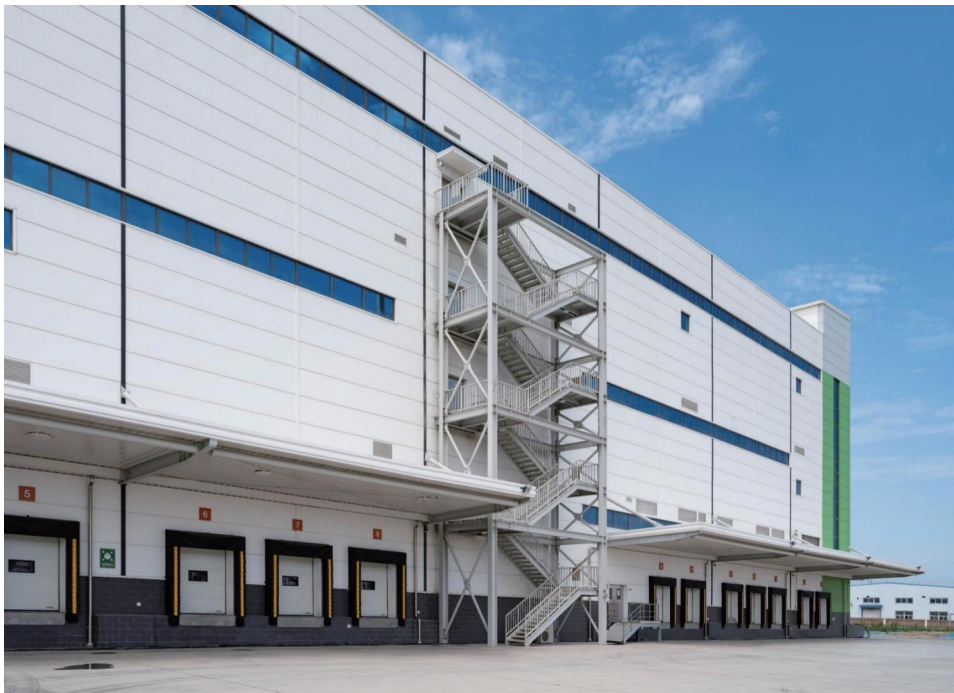


# CUSTOMIZED LARGE - SCALE COLD STORAGE CASES



● INNER MONGOLIA LINGZHI POTATO WAREHOUSE

# CUSTOMIZED LARGE - SCALE COLD STORAGE CASES



● YIHAI KERRY(XINGPING)FOOD INDUSTRY CO.,LTD.



● QICHENG SUPPLY CHAIN BEIJING SHUNYI PROJECT

# SMALL AND MEDIUM-SIZED COLD STORAGE CASES



● BEIJING CHUANHAI CATERING MANAGEMENT CO.,LTD.

# SMALL AND MEDIUM-SIZED COLD STORAGE CASES



● LAO NIANG JIU CATERING CO.,LTD.

# HUIHUANG HIGH EFFICIENCY ENERGY-SAVING UNIT



FA-8/9/10/12/13/15/20	
TEMPERATURE RANGE	-35°C~10°C
COMPRESSOR POWER RANGE(HP)	8~20 HP
COOLING CAPACITY RANGE(KW)	6.75~28.45 kw
SUGGESTED TOWING CAPACITY RANGE (M³)	169~411 m³



FA-22/25	
TEMPERATURE RANGE	-35°C~10°C
COMPRESSOR POWER RANGE(HP)	22/25 HP
COOLING CAPACITY RANGE(KW)	18.86~44.18 kw
SUGGESTED TOWING CAPACITY RANGE (M³)	346~675 m³



FA-1.5/1.5B/2/3/2B/3B/4/5/6/7	
TEMPERATURE RANGE	-35°C~10°C
COMPRESSOR POWER RANGE(HP)	1.5~7 HP
COOLING CAPACITY RANGE(KW)	1.34~12.24 kw
SUGGESTED TOWING CAPACITY RANGE (M³)	12~165 m³



FA-30	
TEMPERATURE RANGE	-35°C~10°C
COMPRESSOR POWER RANGE(HP)	30 HP
COOLING CAPACITY RANGE(KW)	26.36~54.23kw
SUGGESTED TOWING CAPACITY RANGE (M³)	670~1180 m³

# HIGH EFFICIENCY ENERGY-SAVING UNIT



## FLAND MONOBLOCK INTEGRATED UNIT MANUAL

TEMPERATURE RANGE	-25°C~10°C
COMPRESSOR POWER RANGE(HP)	1.5~3 HP
COOLING CAPACITY RANGE(KW)	1.34~3.71 kw
SUGGESTED TOWING CAPACITY RANGE (M <sup>3</sup> )	12~45 m <sup>3</sup>



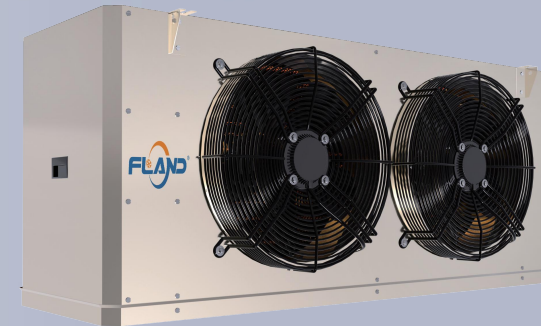
## DUAL PARALLEL SCREW COMPRESSOR UNIT

TEMPERATURE RANGE	-65°C~10°C
COMPRESSOR POWER RANGE(HP)	20~200 HP
COOLING CAPACITY RANGE(KW)	13.83~147.5 kw
SUGGESTED TOWING CAPACITY RANGE (M <sup>3</sup> )	411~1200 m <sup>3</sup>

# HUIHUANG ENERGY SAVING AIR-COOLING FAN



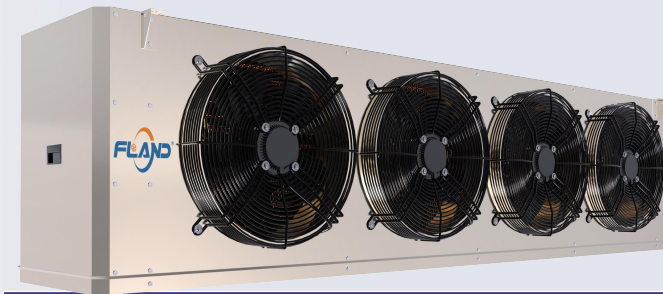
FA-7015/7024/7047	
MINIMUM SIZE	810*490*590
MAXIMUM SIZE	1200*600*800
FAN SIZE	Φ350/Φ400/Φ450
AIRFLOW OF THE COOLING FAN (M <sup>3</sup> /H)	2160~3850



FA-7031/7053/7061/7093/7112	
MINIMUM SIZE	1270*490*590
MAXIMUM SIZE	2000*600*800
FAN SIZE	Φ350/Φ400/Φ450
AIRFLOW OF THE COOLING FAN (M <sup>3</sup> /H)	4330~11394



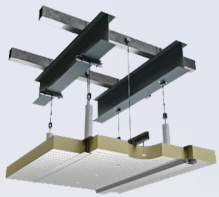
FA-7070/7081/7130/7151/7169	
MINIMUM SIZE	2170*560*710
MAXIMUM SIZE	2800*600*830
FAN SIZE	Φ400/Φ450
AIRFLOW OF THE COOLING FAN (M <sup>3</sup> /H)	11596~17927



FA-7136/7230	
MINIMUM SIZE	2760*560*725
MAXIMUM SIZE	3600*600*830
FAN SIZE	Φ400/Φ450
AIRFLOW OF THE COOLING FAN (M <sup>3</sup> /H)	13756~22788

# FLAND COLD STORAGE ENCLOSURE SYSTEM

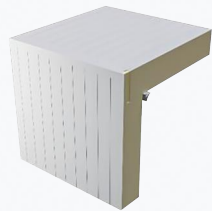
A mature and sophisticated system fully leverages the overall advantages of prefabricated cold storage.



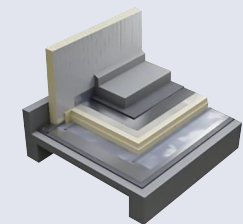
Ceiling Suspension System



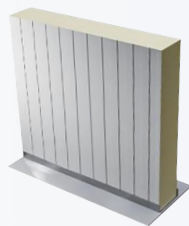
Cold Storage Insulated Door



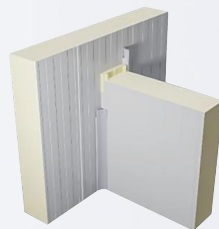
Wall Panels and  
Corner Ceiling Panels



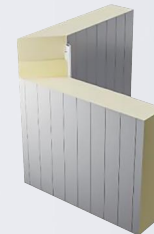
Cold Storage Floor



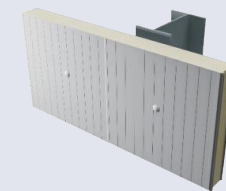
Wall Panel Installation



Wall Panels and Partitions



Wall Panel Corners



Reinforced Wall  
Panel Installation

# POLYURETHANE COLD STORAGE PANELS

It has excellent stability in both high and low temperatures, a higher fire-resistance rating, and is environmentally friendly.

DENSITY  
≥ 40KG/M<sup>2</sup>

B1 FIRE-RESISTANT

WATERPROOF

INSULATION

CLOSED-CELL  
RATIO 95%

1	Formed Metal Panels
2	Environmental-friendly adhesive
3	Polyurethane rigid core material
4	Interlocking groove

1	Stainless Steel Panels
2	Orange Peel Aluminum Panels
3	Embossed Aluminum Panels

# COLD STORAGE DOOR

Meets the Needs of Various Scenarios



SLIDING GATE/AUTOMATIC SLIDING DOOR	
MAXIMUM DIMENSIONS	Width 3,000mm, Height 4,000mm
POWER SUPPLY	220V, 50HZ
INSULATION PERFORMANCE	Thermal Conductivity Coefficient 0.024W/m <sup>2</sup> K
DOOR THICKNESS	100/150mm, Cold Bridge Break Structure



FULLY BURIED DOOR/HALF BURIED DOOR	
MAXIMUM DIMENSIONS	Width 1,200mm, Height 2,200mm
SERVICE LIFE	No less than 1,000,000 cycles
INSULATION PERFORMANCE	Thermal Conductivity Coefficient 0.024W/m <sup>2</sup> K
DOOR MATERIAL	Coated Steel Plate: Thickness 0.6-0.8mm Stainless Steel: Thickness 0.8-1.0mm



DOOR WITH OBSERVATION WINDOW	
MAXIMUM DIMENSIONS	Width 1,200mm, Height 2,200mm Observation window 500mm, 500mm
SERVICE LIFE	No less than 1,000,000 cycles
INSULATION PERFORMANCE	Thermal Conductivity Coefficient 0.024W/m <sup>2</sup> K
DOOR MATERIAL	PVC door body/customizable color



FRENCH DOOR	
MAXIMUM DIMENSIONS	Width 2,000mm, Height 2,200mm
OPERATING SPEED	0.8-2.4m/s
OPENING FUNCTIONS	Manual opening (pull rope)/related equipment linkage
DOOR THICKNESS	100/150mm, Cold Bridge Break Structure

# INTELLIGENT CONTROLLER

The FD-900 is a digital intelligent controller designed specifically for cold storage facilities.



SPECIFICATION PARAMETER			
OPERATING VOLTAGE	100-256VAC, 50/60HZ	TOTAL POWER CONSUMPTION	Less than 15W
TEMPERATURE MEASUREMENT RANGE	-49°C TO 119°C	TEMPERATURE MEASUREMENT ACCURACY	-20°C TO 50°C ±1°C
TEMPERATURE CONTROL RANGE	-40°C TO 119°C	TEMPERATURE RESOLUTION	0.1°C/1°C
STORAGE TEMPERATURE	-20°C TO 75°C	OPERATING ENVIRONMENT TEMPERATURE	-10°C TO 65°C
SENSOR TYPE	NTC (10KΩ/25°C, B VALUE 3435K)		

# INTRODUCTION TO COLD CLOUD FEATURES

## LOW-ENERGY CONSUMPTION OF COLD STORAGE

- FRESH - KEEPING TECHNOLOGY
- TEMPERATURE CONTROL

Real-time monitoring of product temperature enhances the quality of cold cutting and ensures data transparency and traceability.

## LOW-ENERGY CONSUMPTION OF COLD STORAGE

- BIG DATA ENERGY SAVING
- INTELLIGENT DEFROSTING

The intelligent defrosting algorithm actively analyzes and continuously optimizes the defrosting logic.

## AI INTELLIGENT ANALYSIS

- AI FAULT DIAGNOSIS
- INTELLIGENT ANALYSIS

Based on the operating parameters of the cold storage and combined with the usage habits of the cold storage, big data analysis is used to formulate cold storage operation strategies.

## EARLY RISK DETECTION

- RISK EARLY WARNING
- REMOTE HANDLING

Risk early warning is advanced by 5 hours, ensuring early detection and prompt handling. Remote rapid response enables timely problem-solving.

## LONG SERVICE LIFE

- MAINTENANCE PLAN
- FAULT DIAGNOSIS

Can generate maintenance plans and provide regular maintenance reminders, preventing the cold storage from operating with malfunctions.

## MONITORING IS MORE COMPREHENSIVE

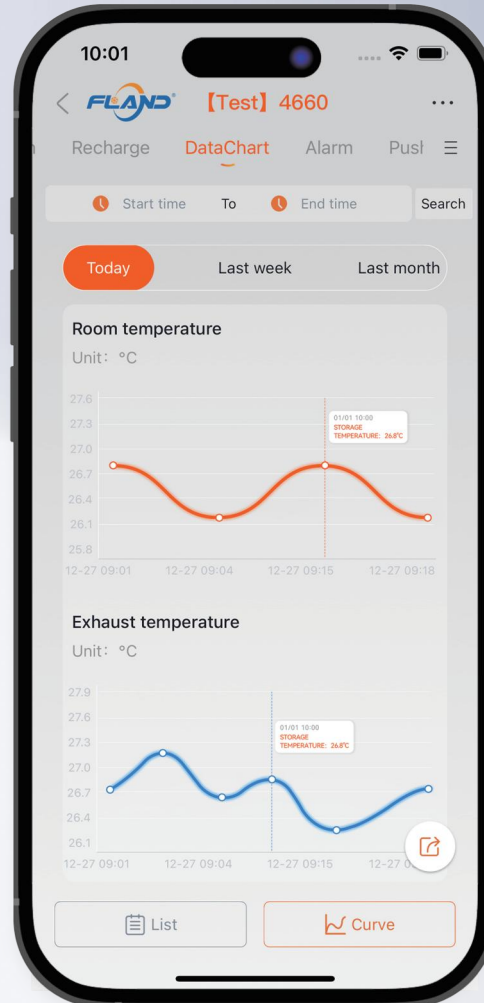
- WHOLE - MACHINE MONITORING
- USAGE MONITORING

Pressure, Temperature, Voltage, Current, Monitoring, Door Opening and Closing Detection, Comprehensive Monitoring of Equipment Operation.



# MOBILE OPERATION INTERFACE

Data analysis more intuitive data presentation.



ECO BIG DATA ENERGY SAVING	
1	After Fland Cold Storage initiates the AI intelligent learning mode, it will automatically collect your cold storage usage habits, ambient temperature, system operation status, etc.
2	It will automatically generate the optimal operating parameters for the cold storage, achieving big data cloud energy saving for the cold storage, with an energy saving effect of up to 30%.
3	During the operation period, please do not turn off the cold storage; if you reset the parameters, the system will enter the re-learning mode, with a learning period of about 1 - 2 days.
4	AI One - Key Cold Storage Health Diagnosis: Perceiving subtle changes, intelligently analyzing potential risks, and providing early warnings for maintenance, making it more hassle-free;
5	By reading parameters such as pressure, temperature, voltage, and current, it provides comprehensive monitoring of equipment operation;

FLAND COLD STORAGE HEART EVERY TIME

