Solar cold room refrigeration units

INVERTER REFRIGERATION SYSTEMS

Matched outdoor units and indoor air coolers for fresh, frozen and selected dry-goods storage.

Optional solar-assisted configuration



4.0–23.8 kW
Nominal cooling capacity

9 models
Single- and three-phase options

Optional solar
Solar priority with grid support

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FLEXIBLE COOLING FOR FOOD & DRY GOODS

Inverter refrigeration. Optional solar assistance.



Choose the right matched format

Select an outdoor unit with a matched ceiling-mounted air cooler and room control. Cooling is sized for the goods, insulation and daily load.

4.0–23.8 kW
Nominal cooling capacity

9 models
Matched outdoor / indoor range

R410A
Refrigerant

IPX4 outdoor
Enclosure protection rating

FEATURES / BUYER BENEFITS

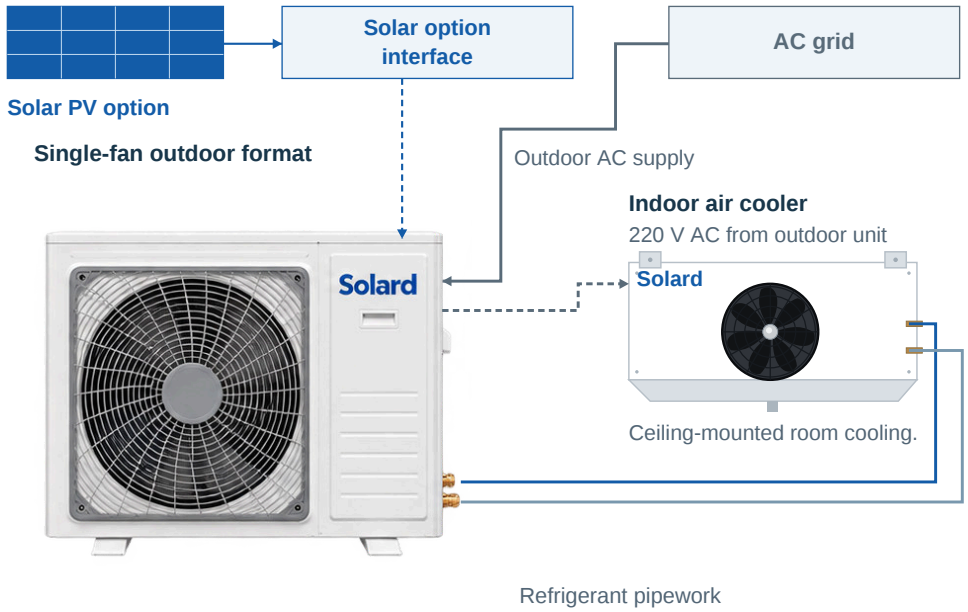
Technology	What it does for your cold room
Variable-speed cooling	Compressor and outdoor fan adjust output to demand for efficient part-load operation.
EVI technology	Enhanced vapor injection supports refrigeration performance in low-temperature storage.
Electronic expansion	Refrigerant flow adapts to changing load and operating conditions.
Hot-gas defrost	Refrigerant heat removes coil frost and helps restore airflow and heat transfer.
Protected drainage	Drain-pan de-icing and a 100 W drain-pipe heater help prevent ice blockage.
Optional 4G visibility	View room temperature, operating history and fault information remotely.
Optional solar assistance	PV powers the outdoor drives. The outdoor unit supplies 220 V AC to the indoor air cooler.
Matched system range	Nine outdoor / indoor combinations, selected for food and dry-goods storage duties.

Nominal ratings: 0°C room / 32°C outdoor. System sizing is based on the cold-room heat load. The solar option combines PV-powered outdoor drives with AC grid support. Indoor power is supplied by the outdoor unit.

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SINGLE-PHASE REFRIGERATION SYSTEMS

220 V / 1 phase / 50 Hz



PV option supports outdoor drives. Indoor powered by outdoor unit.

R410A refrigerant

Refrigerant specification across the listed model range.

IPX4 outdoor protection

Outdoor enclosure rating for the listed condensing units.

Temperature control

Room control range: −20°C to +40°C.

Indoor supply

220 V / 1 phase / 50 Hz.
Powered by the outdoor unit.

COMPACT RANGE / SPECIFICATIONS

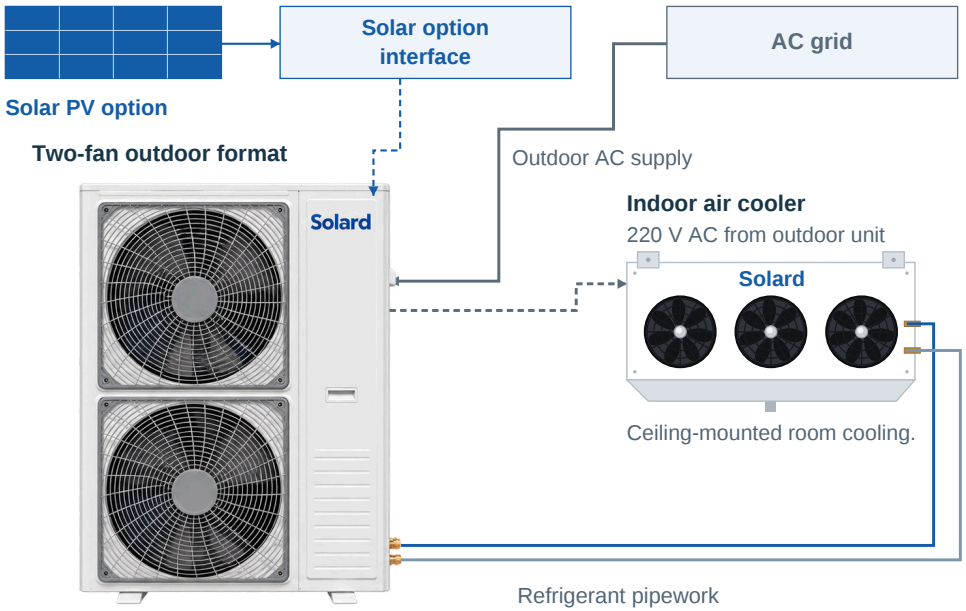
Outdoor model	HWLN-020S /ZDBPFG-B1	HWLN-030S /ZDBPFG-B1	HWLN-040S /ZDBPFG-B1	HWLN-050S /ZDBPFG-B1
Nominal cooling capacity / kW	4.00	5.90	9.00	9.80
Cooling at +10°C room / kW	5.0	7.1	10.0	11.0
Cooling at −20°C room / kW	2.2	3.2	4.7	5.5
Nominal input power / kW	1.53	2.27	3.42	3.77
Nominal COP / W/W	2.62	2.60	2.63	2.60
Maximum input current / A	12.70	18.20	21.80	25.00
Outdoor noise / dB(A)	52	52	54	55
Outdoor fans / count	1	1	1	1
Outdoor size L×W×H / mm	862×350 ×558	862×350 ×558	1010×450 ×810	1010×450 ×810
Outdoor net weight / kg	37	38	62	65
Liquid / gas pipe Ø / mm	6.35 / 12.7	6.35 / 12.7	9.52 / 15.88	9.52 / 15.88
Indoor model	HWLF-429S1N-7011-B1	HWLF-400S1W-9007-B1	HWLF-400S1W-9011-B1	HWLF-400S2W-9014-B1
Indoor fans / count	1	1	1	2
Indoor fan power / W	65	180	180	180×2
Indoor airflow / m³/h	2000	3000	3000	3000×2
Indoor size L×W×H / mm	835×310 ×720	835×395 ×720	835×395 ×720	1357×395 ×720
Indoor net weight / kg	27	31	33	49
Room control range / °C	−20 to +40	−20 to +40	−20 to +40	−20 to +40
Drain-pipe heater / W	100	100	100	100

Ratings: 32°C outdoor ambient; nominal values at 0°C room temperature.
Dimensions are L×W×H; installation clearances are excluded.

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HIGHER-CAPACITY REFRIGERATION SYSTEMS

Single- and three-phase options



PV option supports outdoor drives. Indoor powered by outdoor unit.

R410A refrigerant

Refrigerant specification across the listed model range.

IPX4 outdoor protection

Outdoor enclosure rating for the listed condensing units.

Temperature control

Room control range: −20°C to +40°C.

Indoor supply

220 V / 1 phase / 50 Hz.
Powered by the outdoor unit.

EXTENDED RANGE / SPECIFICATIONS

Outdoor model	HWLN-060S /ZDBPFG-B1	HWLN-060T /ZDBPFG-B1	HWLN-080T /ZDBPFG-B1	HWLN-100T /ZDBPFG-B1	HWLN-120T /ZDBPFG-B1
Outdoor supply / 50 Hz	220 V / 1 phase	380 V / 3N	380 V / 3N	380 V / 3N	380 V / 3N
Nominal cooling capacity / kW	12.00	12.00	16.00	19.70	23.80
Cooling at +10°C room / kW	13.4	13.4	18.4	23.3	30.0
Cooling at −20°C room / kW	6.7	6.7	9.4	11.3	13.6
Nominal input power / kW	4.61	4.61	6.18	7.82	9.33
Nominal COP / W/W	2.60	2.60	2.59	2.52	2.55
Maximum input current / A	31.80	11.80	15.20	17.70	22.00
Outdoor noise / dB(A)	57	57	59	60	61
Outdoor fans / count	1	1	1	2	2
Outdoor size L×W×H / mm	1110×454 ×940	1110×454 ×940	1110×454 ×940	1010×450 ×1266	1135×454 ×1440
Outdoor net weight / kg	86	84	90	95	125
Liquid / gas pipe Ø / mm	9.52 / 15.88	9.52 / 15.88	9.52 / 15.88	9.52 / 15.88	9.52 / 19.05
Indoor model	HWLF-400S2W-9014-B1	HWLF-400S2W-9014-B1	HWLF-450S2W-9021-B1	HWLF-450S2W-9021-B1	HWLF-450S3W-9033-B1
Indoor fans / count	2	2	2	2	3
Indoor fan power / W	180×2	180×2	260×2	260×2	260×3
Indoor airflow / m³/h	3000×2	3000×2	4500×2	4500×2	4500×3
Indoor size L×W×H / mm	1357×395 ×720	1357×395 ×720	1357×395 ×720	1357×395 ×720	1957×395 ×720
Indoor net weight / kg	49	49	55	55	76
Room control range / °C	−20 to +40	−20 to +40	−20 to +40	−20 to +40	−20 to +40
Drain-pipe heater / W	100	100	100	100	100

Ratings: 32°C outdoor ambient; nominal values at 0°C room temperature.
Dimensions are L×W×H. 3N = three-phase supply with neutral.

Storage needs shape the system

Cold storage for food and dry goods, designed around temperature, product moisture and packaging.



Fresh produce

Cooling for produce intake and storage.



Dairy & chilled food

Chilled storage for dairy and food distribution.



Frozen meat & prepared food

Low-temperature storage for meat and prepared food.



Seafood & cold-chain storage

Clear airflow, coil defrost and protected drainage.



Spices & dried chilli

Temperature control for packaged spices and dried chilli.



Grain & seed storage

Temperature control for dry grain and seed storage.

More uses. Different room formats.

Cold storage from harvest and market handling to food processing, retail and frozen-food operations.



Harvest produce holding

Crated fruit and vegetables before dispatch.



Market & wholesale storage

Short-term produce storage close to trade.



Supermarket cold rooms

Insulated rooms with retail display access.



Meat chilling & processing

Hanging rails with space for cooling airflow.



Foodservice distribution

Chilled storage, handling and loading areas.



Frozen-food cold rooms

Freezer rooms for frozen food operations.

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Put daylight to work.

PV direct-drive option with AC grid support.



SOLAR MODULAR COLD ROOM

Solar priority. Grid support.

Use on-site solar power during daylight. Grid power supplies refrigeration when PV output is insufficient.

SYSTEM CONFIGURATION

Element	Role in the matched system
PV array	Solar modules collect daylight for refrigeration.
Solar interface	The PV array connects through the direct-drive module to the outdoor PV input.
Solar-powered drives	PV power supports the outdoor compressor and outdoor fan drives.
Grid & auxiliaries	AC grid enters the outdoor unit for controls, auxiliaries and the indoor 220 V AC supply.
Low sun / night	Grid supports refrigeration when available solar output is insufficient.
Indoor supply	The outdoor unit supplies 220 V AC / 1 phase / 50 Hz to the indoor air cooler.

PV and grid inputs connect to the outdoor unit. Indoor power is supplied by the outdoor unit.

From assembly to dispatch

Shandong Solard New Energy Technology Co., Ltd. · Shandong, China







Assembly

Model-specific unit assembly

Inspection

Connection and operation checks

Packing

Protected export packing

Tell us about your cold room.

A clear technical brief helps us select the refrigeration package and prepare your quotation.



Solar-assisted refrigeration system

PV and grid power enter the outdoor unit, which also supplies the indoor air cooler.

Goods & temperature

Stored products, target temperature, incoming goods temperature and moisture requirements.

Room & insulation

Internal dimensions, insulation thickness and material.

Daily operating load

Incoming goods quantity, door openings and operating hours.

Site & power

Outdoor design temperature; supply voltage, phase and frequency.

Optional configuration

Solar-assisted operation and backup-power needs.

EQUIPMENT & SHIPPING QUOTATION

Quantity · country & city
Complete delivery address & postal code
Contact name & email

Email: ivy@solard.com.cn