

Off-Grid Solar Cold Rooms

Solar + Battery. Automatic Generator Backup.



Application visualisation

48 kWh

Battery storage

-18°C to +6°C

Adjustable temperature

20ft / 40ft

Container sizes

20ft and 40ft configurations

Specification	20ft HC	40ft HC
External dimensions (L × W × H)	6.058 × 2.438 × 2.896 m	12.192 × 2.438 × 2.896 m
Internal cold room dimensions	4.68 × 2.16 × 2.47 m	10.52 × 2.16 × 2.47 m
Internal cold room volume	24.9 m³	56.0 m³
Temperature range	−18°C to +6°C	−18°C to +6°C
Solar PV capacity	9.9 kWp	10.56 kWp
Battery storage	48 kWh LiFePO ₄	48 kWh LiFePO ₄
Hybrid inverter	11 kW	11 kW
Generator + ATS	5.5 kW (5 kW continuous)	5.5 kW (5 kW continuous)
Insulation thickness	100 mm	100 mm

One compartment. One selected temperature.

Room volume excludes insulation and the equipment compartment. Allow further space for the evaporator, access aisles and stacking. Battery runtime and solar contribution depend on site conditions, loading, temperature and door use.

Plan the system around your site.

Use these details to start a project discussion with UMAX.

01 Integrated system

Insulated containerised cold room and refrigeration; solar array and supporting structure; 48 kWh LiFePO₄ battery; 11 kW hybrid inverter; diesel generator with automatic transfer. The cold room and equipment compartment are physically separated.

02 Optional monitoring

Temperature and energy monitoring, alerts and connectivity can be discussed for the project. Remote monitoring is an option; connectivity hardware and subscriptions are confirmed separately.

03 Site preparation and delivery

Confirm a level, load-bearing foundation, drainage, delivery route and lifting access. Allow space for the solar array, equipment ventilation and maintenance. Freight, lifting, installation and commissioning responsibilities need to be agreed in the quotation.

04 Daily operation and support

Discuss cleaning access, generator servicing and fuel supply, temperature checks, and support access for the site. Request the applicable equipment warranty and service terms before ordering.

For your project enquiry

Location and access · Type of goods · Daily incoming quantity
Incoming and target temperatures · Door-opening frequency
Preferred size · Available power · Target installation date

Specification basis

English summary of supplied VoltChain 1016 product literature. Final equipment, performance, delivery and service scope are confirmed in the project quotation. Illustrations show concepts; site layouts vary.