

Solar Cold Room

SelfChill DC | 20 M³ | 10 °C | 250 kg/day | 45 °C

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The Solar Cold Room SelfChill DC is a kit that includes all the necessary components for the construction of a SelfChill Cold Room which is a self-sufficient system utilizing solar-powered SelfChill® Cooling Units to chill 250kg of agricultural products daily to 10°C, even in regions with ambient temperatures as high as 45°C. The system is based on the SelfChill concept, in which cold is generated by solar-powered SelfChill® Cooling Units and stored as ice in a thermal energy storage (water chiller) for efficient transfer and low losses. The heat exchanger and thermostat ensure reliable cold distribution. The adaptive control unit optimizes solar energy use and provides remote monitoring.



Technical Data	
Cold Room volume	20 m³
Ice Storage	300 kg
Power _{electrical} (12 Cooling Units)	900 W
Power _{electrical} (pump + heat exchanger)	40 W
Power _{thermal} rated (@45 °C ambient temperature)	1350 W
Power _{thermal} , max	6,8 kW
PV capacity (for 12 Cooling Units)	4560 Wp
PV capacity (for pump + heat exchanger)	1520 Wp
Battery Capacity (for 12 Cooling Units)	1050 Ah @24VDC
Battery Capacity (for pump + heat exchanger)	350 Ah @24VDC

Components	Quantity
Cold Cell 20m³	1
PE Box with PUR Insulation and cover Phaesun SelfChill 500L	2
Water-Air heat exchanger Phaesun SelfChill 24VDC	2
Water Chiller with shelves, pipes, valves, pump etc.	2
Solar Cooling Unit SelfChill Direct-Drive MT 75Upgrade	12
Solar Module Phaesun PN6M120-380 C	16
Solar charge controller MPPT Victron SmartSolar 150/45	6
Solar charge controller MPPT Victron SmartSolar 100/20	2
AGM Battery Phaesun Sun Store 175Ah	16
Module structures	Optional
Cables, installation material	2
Remote Monitoring & Control Unit	Optional