

PRODUCT CATALOG



The future of sustainable cooling
for positive energy buildings

ABOUT SUN-ICE ENERGY

Matching solar renewable energy with efficient phase change cooling



Effective



Economical



Environmental

Sun-Ice Energy PCM thermal energy storage (TES) is an ACTIVE way for clean, fast and efficient energy storage and energy recovery, integrating a high-efficiency, 7°C standard chilled water to air, fan ventilated air exchanger, and an external touch pad wall controller.

As a key end device in central air conditioning systems, it can be easily and widely used in residential, commercial and industrial buildings, including hotels, restaurants, factories, hospitals, malls and offices.

It is also suitable for specialized applications such as ice rinks, cold chain logistics, and refrigerated containers, providing an efficient and economical cooling solution.



PCM

Phase Change Material

TES

Thermal Energy Storage

BENEFITS



Made from **eco-friendly** materials: non-toxic, flame-retardant and **fully recyclable**



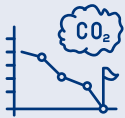
Net **Zero cost** with additional revenue stream or **70%** re-deployable energy



Low maintenance safe parts with **50-year** life span



Automatic Temperature & Humidity Control



Reduces/eliminates CO₂ emissions



Exceptional **ROI**

OUR AWARDS



World Economic Forum
Top Innovator



Sustainable &
Smart Marina Monaco
Start Up Award



US Ice Skating Federation
Featured article



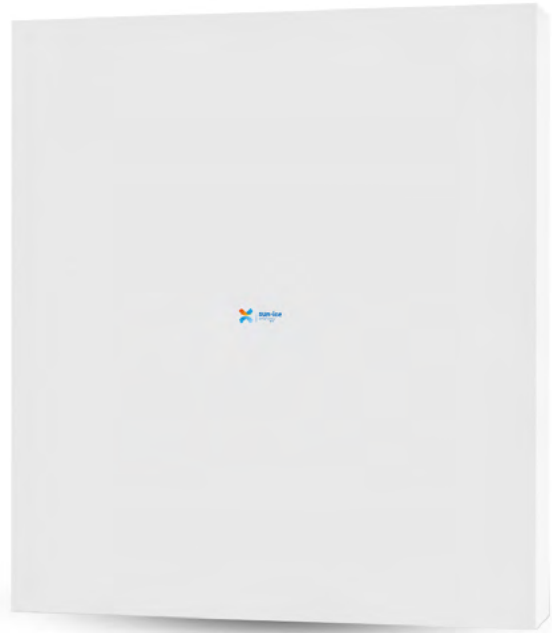
High-Quality Intelligent
Manufacturing Space
Award

TES ICE WALL



Embedded Energy Storage Wall

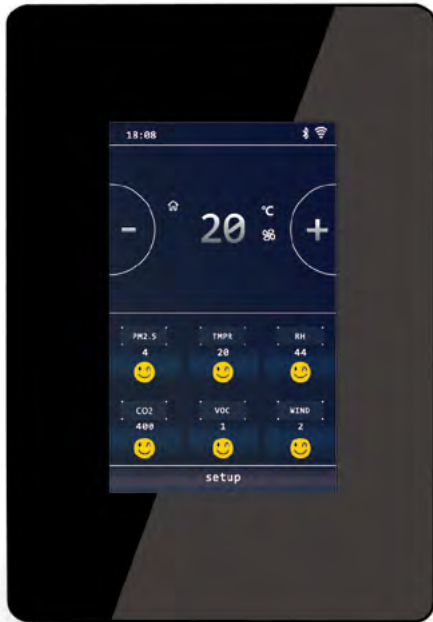
- Advanced PCM / water-ice energy storage
- Active thermal storage (charge/discharge anytime)
- High-performance insulated box
- Circulation pump, control valve, service valves
- Integrated “ice box” module
- For 7°C chilled water FCU and -10°C chiller network



2106×410×2366

ICE WALL SIZE	NUMBER OF PCM CONTAINERS	Water content in liters	Total Capacity in Kjoules	Total Capacity in KWh
1x4	4	60	20040	5.58
2x4	8	120	40080	11.16
3x4	12	180	60120	16.74
4x4	16	240	80160	22.32
5x4	20	300	100200	27.9
6x4	24	360	120240	33.48
3x3	9	135	45090	12.56

ROOM CONTROLLER



112x65x162



5-in-1 Sensors



Central Control

- The Sun-Ice Energy Room Controller has Temperature, RH, PM2.5, TVOC sensors.
- It controls all the air parameters for multiple Sun-Ice Energy TES units.
- It also integrates a CO₂ Sensor and can be used to control an ERV or a FAHU to optimize the fresh air intake, reducing energy consumption while maintaining high indoor air quality.



Back



Side

TES PCM UNITS

Ceiling Unit



Space-saving

- PCM storage air exchanger FCU
- Dual high-efficiency fans
- Room controller/BMS link
- Partially / fully concealed installation



1220×933×251

Window Unit



Multiple / standalone installation

- Low-profile PCM air exchanger FCU
- High-efficiency fan
- Room controller/BMS link
- Under-window furniture integration



1000×185×1003

Wall Column Unit



Single / multiple-column design

- Full size PCM air exchanger FCU
- High-efficiency fan
- Room controller/BMS link
- Around-column & wall installation (visible/concealed)



893×384×2418



Technical parameters table

PCM type		Ceiling unit	Window unit	Column unit
PCM unit total thermal storage capacity(KWh)		1.73	1.73	3.75
Air volume (m ³ /h)	High	222	223	220
	Interm	114	115	112
	Low	55	57	53
Cooling capacity(W)	High	670	672	1075
	Interm	459	460	736
	Low	258	260	416
Heating capacity(W)	High	1042	1045	1672
	Interm	749	750	1200
	Low	314	315	504
Input power(W)	High	61	34	34
	Interm	19	13	13
	Low	13	10	10
Noise value dB(A)	Interm	35	37	38
	Low	31.1	32	33



Being a leader in providing
innovative sustainable storage solutions



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