



## Product Specifications

Ice Energy's Ice Bear distributed energy storage system enables a powerful change in how – and, more importantly, when – energy is consumed for air conditioning, without sacrificing consumer comfort.

Using thermally efficient, off-peak power to produce and store energy for use by air conditioners the next day, the Ice Bear uses a fraction of the peak energy required by conventional systems. It requires no modification to existing ductwork or structure, and integrates seamlessly with standard rooftop and split-system air conditioners.

The Ice Bear unit creates and stores cooling energy at night by freezing water in an insulated storage tank. It cools during the day by circulating chilled refrigerant from that tank to the conventional air conditioning system, eliminating the need to run the energy-intensive compressor during peak daytime hours.

During off-peak hours, the conventional HVAC system operates as usual. Together, this unique hybrid system surpasses the overall efficiency and performance of conventional equipment alone.

## Key Benefits

### For Utilities

- Cost-effective Alternative to New Peaking Generation
- Permanently Shifts Peak Demand
- Uses Cleaner, More Efficient Off-Peak Power
- Improves System Efficiency & Grid Reliability
- Relieves Congestion on Peak
- Enables Reliable Integration of Renewables
- Reduces Greenhouse Gas Emissions
- Easy, Rapid Deployment at a Multi-Megawatt Scale

### For Commercial Energy Consumers

- Reduces the Building's Carbon Footprint by 10% or More
- Reduces Building Energy Consumption on Peak
- Delivers Superior Cooling Comfort for Customers and Employees
- Improves Building Energy Performance
- No Cost Under Utility-Sponsored Programs
- Utility Pays for Equipment, Installation and Maintenance



## Key Features

### High Reliability

- 25-year design life
- Cooling mode uses two long-life pumps
- Extends compressor life by eliminating stop-start operation during hottest hours of the day

### Widely Compatible

- For commercial rooftop and split systems from 4 to 20 Tons, and ductless units from 3 to 5 Tons
- Each Ice Bear unit can be applied to a 3-5 Ton system, or a single 5-ton stage of a 7.5-20-Ton system
- 30 Ton-hours of cooling at a load of up to 5 Tons
- Easy Installation
- Can be installed on the roof or ground by an Ice Energy certified local HVAC contractor
- CoolData® Controller programmed for utility savings
- Low Maintenance
- Simple 1 hour annual maintenance procedure

## Technical Specifications

### Cooling Capability

- Maximum Cooling Load ..... 5 Tons
- Total Storage Module Capacity ..... 30 Ton-hours

### Daytime Peak Power Reduction

- On-Peak Demand Reduction ..... Up to 7kW
- On-Peak Electric Demand ..... 300 watts
- On-Peak Energy Efficiency ..... ffi200 EER
- Energy Shifted to Off-Peak ..... 35 kWh

### Nighttime Ice Make

- Copeland Scroll Compressor ..... 4.3 Ton
- Ice Make Time (full make) @ 55° F ..... 10 hours
- Ice Make Time (full make) @ 75° F ..... 11.5 hours

### Line Set Restrictions

- Length (Ice Bear to airside coil) ..... 150 feet
- Height (Ice Bear to coil above/max) ..... 35 feet
- Height (Ice Bear to coil below/max) ..... 20 feet




### Ice Storage Section

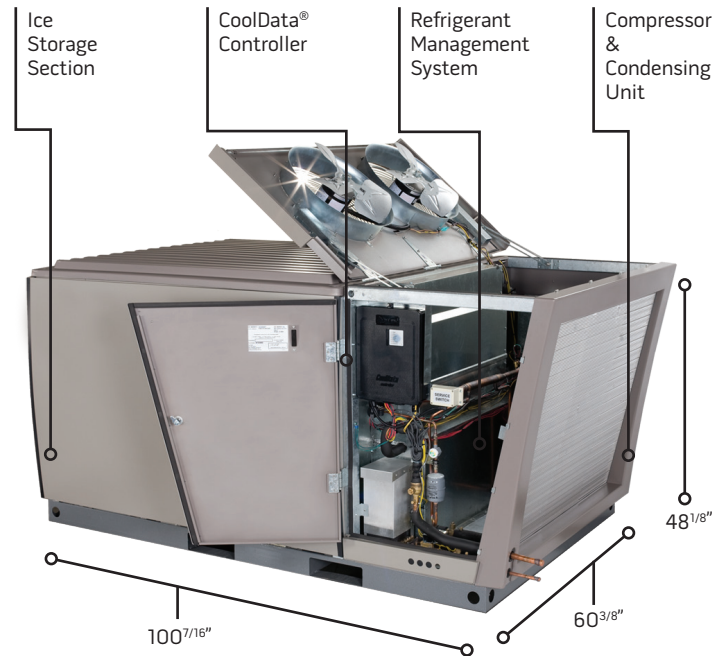
- Tank Capacity (tap water) ..... 480 gallons
- Thermal Storage Capacity (latent) ..... 360,000 BTU

### Refrigerant Management System (RMS) & Compressor

- Refrigerant ..... R-410A

### CoolData® SmartGrid Controller

- Built-In Web Server & Data Logging
- NI LabVIEW On-Board Application Lay.. 
- Historian ..... 
- 1-Wire Dallas Sensor Network ..... 



### Physical Properties

- Size .....100<sup>7/16</sup> W x 60<sup>3/8</sup> D x 48<sup>1/8</sup> H
- Weight (dry) .....1,400 lb. (approx.)
- Weight (filled) .....5,400 lb. (approx.)
- Load Distribution (filled) .....152 lbs. per sq.ft

### Electrical Requirements (by model #)

- #IB30A-521: 208/230 VAC, 1  $\Phi$ , .....50A min. service
- #IB30A-523: 208/230 VAC, 3  $\Phi$ , .....30A min. service
- #IB30A-543: 460 VAC, 3  $\Phi$ , .....20A min. service

## Warranty

Ice Energy products are warranted to be free from defects in workmanship and materials under normal use and service per the terms below. See full warranty for details.

- Tank & Ice Heat Exchanger .....5 years
- Compressor .....5 years
- Condensing Unit Heat Exchanger .....5 years
- Other Components .....1 year

## Support

For assistance with technical or sales support questions contact your Ice Energy representative, call us at 877-542-3232 or visit us online at [www.ice-energy.com](http://www.ice-energy.com).



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