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**C**ommercial ice machines are used in restaurants, hospitals, hotels, schools, offices and grocery stores and represent approximately 11 percent of all commercial refrigeration energy use. Model-to-model, the variation in the amount of electricity used is significant — from four to 22 kWh per 100 pound of ice produced. Investing in energy efficiency equipment can save you hundreds of dollars a year.

#### **TYPES OF CONDENSERS**

Ice machines are available with three difference types of condenser:

- Air-cooled ice makers use the most energy — 5.4 to 22.5 kWh per 100 pounds of ice — but cost less than water-cooled models and use less water.
- Water-cooled models are more efficient than air-cooled units, using 4.7 to 14.2 kWh per 100 pounds of ice. The heat removed in making the ice is discharged outside the building, so air-conditioning costs are not affected.
- Remote air-cooled condensers transfer heat generated by the ice making process outside of the building. Like water-cooled units, they reject heat outside of conditioned spaces and, therefore, do not increase air conditioning loads. They also reduce noise levels inside by up to 75 percent, but there are extra installation costs for running lines to a remote location.

#### **WATER HEAT RECUPERATION**

Some ice makers direct incoming water behind the evaporator plate or over the ice to use the heat of the incoming water to assist in the ice harvesting process. This step also serves to pre-chill the incoming water and cuts energy use significantly.

#### **CAPACITY**

One key aspect of energy efficiency is selecting an ice maker that best fits your needs. Buying an ice machine that has more capacity than needed, is a certain waste of energy.

#### **MODEL SELECTION**

The Consortium on Energy Efficiency (CEE) is a national, non-profit corporation that promotes the manufacture and purchase of super-premium efficiency energy efficient products and services. Visit CEE's Web site, [cee1.org](http://cee1.org), for additional information on ice makers and a list of qualifying models and how their efficiency compares with other models. The reverse side of this fact sheet lists CEE's specifications for ice makers.

#### **FOR MORE INFORMATION**

Focus on Energy offers technical data sheets on food service equipment, lighting and refrigeration. To obtain these publications and learn about other ways to improve your energy efficiency, contact your Focus on Energy advisor, call 800.762.7077 or visit our Web site, [focusonenergy.com](http://focusonenergy.com).

<b>Equipment Type</b>	<b>Harvest Rate</b> (100 lbs. ice/24 hrs.)	<b>Tier</b>	<b>Corresponding Base Specification</b>	<b>Maximum Daily Energy Consumption</b> (kWh per 100 lbs. ice)	<b>Maximum Daily Condenser Water Use</b> (gallons per 100 lbs. ice)
Ice-Making Head	<500 lbs./day	1	Approximately FEMP*	7.80-.0055H	200-.022H
		2	20% bellow Tier 1	6.24-.0044H	200-.022H
Water Cooled	≥ 500 lbs./day	1	Approximately FEMP*	5.58-.0011H	200-.022H
		2	20% bellow Tier 1	4.46-.0009H	200-.022H
Ice-Making Head	<450 lbs./day	1	Approximately FEMP*	10.26-.0086H	Not Applicable
		2	20% bellow Tier 1	8.21-.0069H	Not Applicable
Air Cooled	≥ 450 lbs./day	1	Approximately FEMP*	6.89-.0011H	Not Applicable
		2	20% bellow Tier 1	5.51-.0009H	Not Applicable
Remote Condensing	<1000 lbs./day	1	Approximately FEMP*	8.85-.0038H	Not Applicable
		2	20% bellow Tier 1	7.08-.0030H	Not Applicable
Air Cooled	≥ 1000 lbs./day	1	Approximately FEMP*	5.10	Not Applicable
		2	20% bellow Tier 1	4.08	Not Applicable
Self-Contained	<200 lbs./day	1	Approximately FEMP*	11.40-.0190H	191-.0315H
		2	20% bellow Tier 1	9.12-.0152H	191-.0315H
Water Cooled	≥ 200 lbs./day	1	Approximately FEMP*	7.60	191-.0315H
		2	20% bellow Tier 1	6.08	191-.0315H
Self-Contained	<175 lbs./day	1	Approximately FEMP*	18.0-.0469H	Not Applicable
		2	20% bellow Tier 1	14.4-.0375H	Not Applicable
Air Cooled	≥ 175 lbs./day	1	Approximately FEMP*	9.80	Not Applicable
		2	20% bellow Tier 1	7.84	Not Applicable

\*Federal Energy Management Program specification  
Source: CEE

H = Ice Harvest Rate (lbs./24hours)  
ASHRAE Standard 29-1988 (RA99)