



How “Green” is Your Ice?

September, 2009

THE RIGHT ICE MACHINE SUPPORTS SUSTAINABILITY INITIATIVES

Reduce water use



Save electricity



Reduce bottle waste



WHAT IS SUSTAINABILITY?

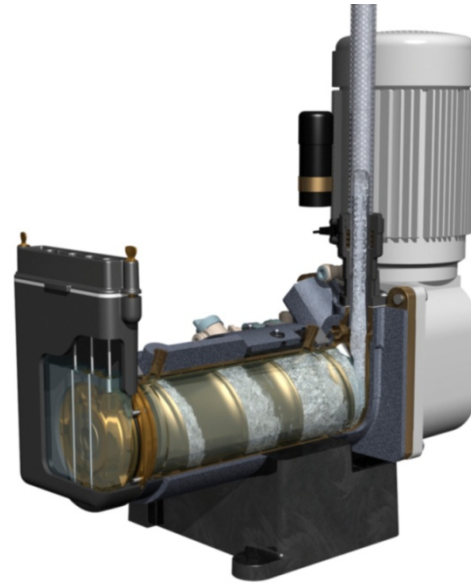
"Sustainable Production is the creation of goods and services using processes and systems that are: non-polluting; conserving of energy and natural resources; economically efficient; safe and healthful for workers, communities, and consumers; and, socially and creatively rewarding for all working people."

Lowell Center for Sustainable Production

UTILITY CONSUMPTION FOR ICE

- Industry-wide, icemakers consume over 1500MW per year – could power Las Vegas
- Over 50 billion gallons of water are consumed by icemakers
- Over 20 billions of that is wasted – enough to serve Tampa
- Great progress has been made in improving energy and water efficiency by all manufacturers but more needs to be done
- Replacing old, ineffective icemakers is always a good choice
- Considering more utility efficient technology also offers a creative approach to enhance sustainability

CUBE ICE OR EXTRUDED ICE?



Horizon™



Maestro™

Cube ice and extruded, or “nugget” (Horizon or Maestro) ice are the most common ice types for foodservice

How do they stack up on sustainability?

FOLLETT REDUCES UTILITY COSTS - WATER

- Water consumption averages 35-40% less than cube-type machines
- Saves up to 25,000 gallons (95,000 liters) per year of water

		Water Consumption, gallons/100#(liters/46kg) ice ¹		Average savings with Follett icemakers	
		Average cube-type icemaker	Follett icemakers	%	Gallons/yr (Liters/yr)
400# per day	Air-cooled self contained	22 (84)	12.6 (48)	44%	9,000 (34,000)
1000# per day	Air-cooled self contained	22 (84)	13.6 (52)	38%	18,000 (68,000)
	Air-cooled remote condensing	21 (80)	13.6 (52)	35%	16,000 (61,000)
1400# per day	Air-cooled self contained	21 (80)	13.2 (50)	37%	25,000 (95,000)
	Air-cooled remote condensing	21 (80)	13.2 (50)	37%	25,000 (95,000)

¹ at 90° F (32° C) air and 70° F (21° C) water

FOLLETT REDUCES UTILITY COSTS - ELECTRICITY

- Follett icemakers consume up to 20% less energy than typical cubers

		Energy Consumption, kwh/100# (46kg) ice		Average savings with Follett
Capacity	Icemaker type	Average cube-type icemaker	Follett	%
400# per day	Air-cooled self contained	7.3	5.7	22%
1000# per day	Air-cooled self contained	5.7	5.1	11%
	Air-cooled remote condensing	5.5	5.1	7%
1400# per day	Air-cooled self contained	5.2	5.1	2%
	Air-cooled remote condensing	4.9	4.8	2%
¹ at 90° F (32° C) air and 70° F (21° C) water				

FOLLETT REDUCES UTILITY COSTS – HEAT REJECTION

- Follett icemakers have lower heat rejection than cube-type icemakers

	Ice Machine Heat Rejection, Btu/hr		
	MCD400A	HCC1000A	HCC1400A
Typical cube-type machine	7,500	16,000	21,000
Follett icemakers	5,000	11,500	16,000
Reduction with Follett	33%	28%	24%

WHY ARE FOLLETT ICEMAKERS MORE EFFICIENT THAN CUBE MACHINES?

- Follett icemakers are continuous operating machines instead of batch-type machines
 - No cyclic defrost
- There is no re-circulating sump water that is regularly dumped down the drain – almost all the water is used for ice

LEED CREDIT OPPORTUNITIES

- Opportunities currently exist for icemakers to contribute to Water Reduction credits
- LEED credits for Optimizing Energy Performance are now under consideration
 - Icemakers will contribute to this category

LEED – WATER REDUCTION

A reduction in water usage of up to 60% from nugget icemakers will contribute to the LEED Water Efficiency goal of 20% reduction in water consumption

- Existing buildings – Credit #3 Water Use Reduction
- New Construction – Credit #3.1 Water Use Reduction
- Commercial Interiors – Credit #1.2 Water Use Reduction

LEED – OPTIMIZE ENERGY PERFORMANCE

Icemakers will contribute to energy calculations in Retail:
New Construction

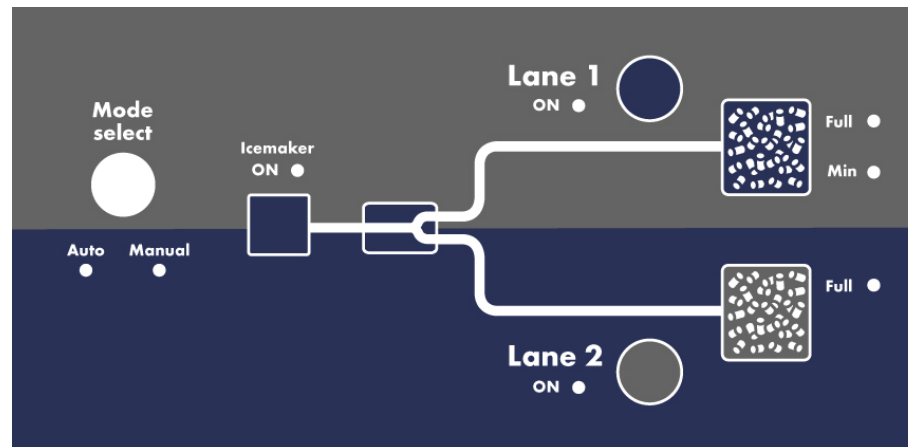
- As part of whole building energy use modeling, or
- Through prescriptive standards of performance
- Details still being evaluated by USGBC

Ice Manager – The Latest Innovation



Ice Manager Diverter Valve System

- **More efficient use of ice machine capacity**
 - One large machine more efficient than 2 small machines
- Lower equipment cost (1 less ice machine)
- Fewer machines to clean, service and maintain
- Fewer on/off cycles for longer compressor life
- Better access to dispensers for cleaning



ICE AND WATER DISPENSERS – The next sustainability opportunity

Water consumption is on the increase and for good reason as studies show that good hydration

- Reduces fatigue
- Improves mental acuity, concentration, and, consequently, productivity
- Leads to better overall health

Drinking water is probably the least expensive way to promote wellness

BUT ...

ICE AND WATER DISPENSERS – The next sustainability opportunity



Every day, 71,000,000 plastic bottles are thrown away in the US.

65% of them go directly into landfills

PLUS ...

ICE AND WATER DISPENSERS – The next sustainability opportunity

Energy is consumed to

- make the bottles
- process the water to fill the bottles
- transport the bottles to the distributors
- transport the bottles to offices
- collect and transport the waste



ICE AND WATER DISPENSERS – The next sustainability opportunity

Follett's Symphony™ ice and water dispensers are the environmentally friendly approach to providing water in the office



ICE AND WATER DISPENSERS – The next sustainability opportunity

- High quality filtered water – as good or better than bottled water
- No bottle waste – potential for custom, reusable bottle programs
- Up to 90% lower cost than either single serve or 5 gallon bottles – pennies per gallon instead of dollars per gallon
- Sanitary dispense options to prevent contamination
- Stylish complement to offices
- Plus the amenity of ice

SUMMARY

- The significant amount of water and energy consumed by ice machines presents a significant conservation opportunity
- Follett icemakers and dispensers offer several opportunities for conservation and contribution to sustainability efforts