
# Maximicer

Put ice machine waste water to good use with the MaximICER heat exchanger. This patented system recycles the waste water from an ice machine to significantly lower the temperature of incoming fresh water. This provides energy savings for the ice machine by decreasing ice harvest cycle times, increasing production, and increasing ice availability in the bin.

The MaximICER works through a simple, hassle free process. Waste water from the ice machine enters the reservoir tank of the MaximICER. As fresh water enters the MaximICER, it flows through the reservoir tank allowing the cold from the waste water to transfer to the fresh water without the two sources mixing. This reduction of temperature significantly lowers the cooling load of the ice machine's refrigeration system, extending the life of the ice machine while improving its performance and production.

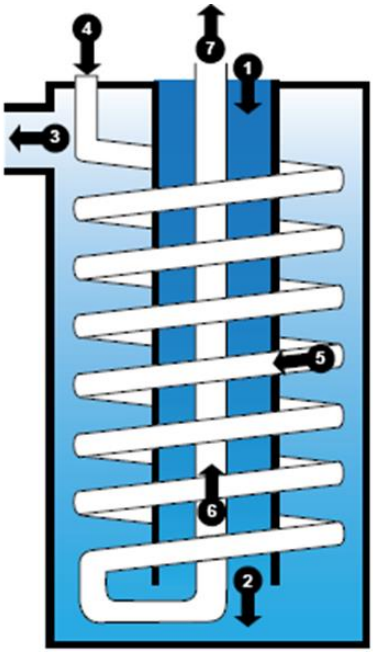
| **Connections** | | |
|---|---|---|
| Inlet Water Connections | ICE-1000<br>ICE-1800<br>ICE-S | 3/8" tube fitting |
| | ICE-H | ½" tube fitting |
| Drain Water Connections | ICE-1000<br>ICE-1800<br>ICE-H<br>ICE-S | ¾" PVC fitting |
| **Specifications** | | |
| Maximum Operating Pressure | | 150 psi |
| Minimum Operating Pressure | | 30 psi |

| **Applications** | |
|---|---|
| **ICE-1000** | Ice machines up to 1000 lbs. |
| **ICE-1800** | Ice machines more than 1000 lbs. |
| **ICE-H** | Hoshizaki North American cube ice machines only. |
| **ICE-S** | All flake or shaved ice machines. |

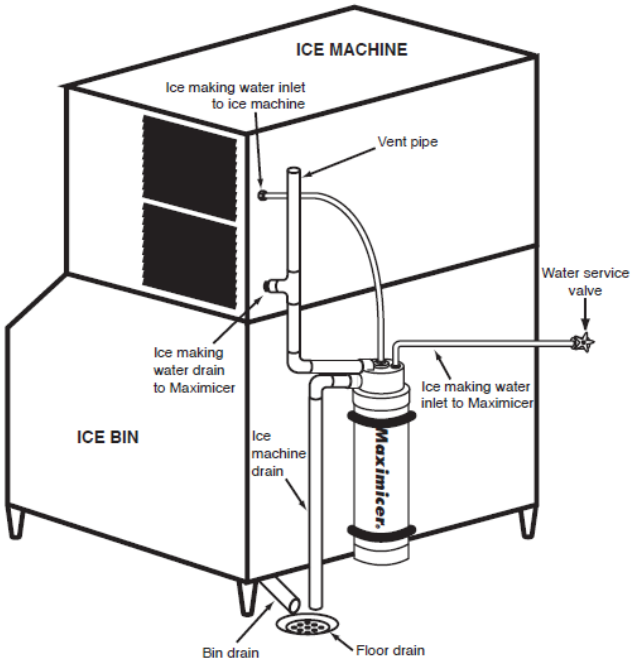
**FEATURES AND BENEFITS:**

- Lowers temperature of incoming fresh water.
- Produces more ice by shortening the ice making cycle times.
- Optimizes ice availability in the bin.
- Saves electricity by filling the bin faster and allowing the ice machine to shut off.
- Extends the life of the ice machine by lowering compressor head pressure.
- Reduces air conditioning costs (for air-cooled ice machines)
- Utilizes patented anti-mineralization technology.
- Models available for all types of ice machines.

## How it Works




1. Cold waste water from the ice machine enters the counter flow tube of the Chill system.
2. Waste water enters the reservoir of the Chill system.
3. As more cold waste water enters the reservoir, it pushes the warm waste water to the drain.
4. Fresh water enters the stainless tubing of the Chill system.
5. As the water flows through the tubing, it's chilled by the surrounding waste water in the reservoir.
6. Fresh water flows up the counter flow tube, where it's chilled further by the coldest waste water entering the reservoir.
7. Chilled, fresh water enters the ice machine, where it's easily converted to ice.



# The Chill ICE Calculator

| Ice Maker Capacity (lbs/day) | 400 | 600 | 800 | 1000 | 1200 | 1800 | 2400 |
|---|---|---|---|---|---|---|---|
| Actual Daily Production using mfg's 90-70 specs (lbs/day)** | 330 | 460 | 700 | 820 | 1,075 | 1,350 | 1,875 |
| Annual Ice Production (lbs) | 120,450 | 167,900 | 255,500 | 299,300 | 392,375 | 492,750 | 634,375 |

## *Increase ICE production by 30%!*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Extra Ice Production (lbs/day)** | 99 | 138 | 210 | 246 | 322.5 | 405 | 562.5 |
| **Increased Ice Production (lbs/year)** | 36,135 | 50,370 | 76,650 | 89,790 | 117,713 | 147,825 | 205,313 |
| Value of Additional Ice @ $0.01 /lb | $361.35 | $503.70 | $766.50 | $897.90 | $1,177.13 | $1,478.25 | $2,053.13 |

Current Daily Ice Production [ ] X 0.3 X 365 = [ ] LBS

## *Save on Electricity by 30%!*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Typical kWh to produce 100lbs of Ice** | **8.5** | **8.3** | **6.1** | **5.9** | **5.7** | **6.1** | **5.6** |
| **kWh usage per day (daily production/100** | **28.05** | **38.18** | **42.7** | **48.38** | **61.275** | **82.35** | **105** |
| ***kWh per 100** | **$1,023.83** | **$1,393.57** | **$1,558.55** | **$1,765.87** | **$2,236.54** | **$3,005.78** | **$3,832.50** |
| Annual Savings of 30% | $307.15 | $418.07 | $467.57 | $529.76 | $670.96 | $901.73 | $1,149.75 |

$$\frac{\text{Total Electric Bill}}{\text{kWh Used}} \text{ [ ] } \times \left( \frac{\text{Daily ice prod.}}{100} \text{ [ ]} \right) \text{ kWh per 100 lbs. X 0.3 X 365 \$ [ ]}$$

[ ] = values to be inserted for your calculation

* Check your electric bill - Divide total cost by kWh costs. Stated Rate does not include misc. costs and fees
** Ice productions are general manufacturer's ranges. Check yours. Field conditions, Air & Water temp determine actual production increases. Check each manufacturers kWh specs for actual numbers - Divide 24 hour production by 100.

FEMP has **calculated**[1] that the required ENERGY STAR–qualified product is cost-effective if priced no more than $1,515 above the less efficient alternative. The most efficient level saves the average user more money: $1,620. The complete cost-effectiveness example and associated assumptions are provided in Table 1.

**TABLE 1. LIFETIME SAVINGS FOR EFFICIENT AIR-COOLED ICE MACHINES**

| | Best Available[a] Model | Required Model | Less Efficient Model |
|---|---|---|---|
| Annual Ice Production (lb) | 100,000 | 100,000 | 100,000 |
| Energy Consumption Rate (kWh/100 lb) | 6.8 | 7.0 | 9.8 |
| Annual Energy Use (kWh/year) | 6,800 | 7,000 | 9,800 |
| Annual Energy Cost | $612 | $630 | $882 |
| Lifetime Energy Cost | $3,680 | $3,785 | $5,300 |
| Lifetime Energy Cost Savings | $1,620 | $1,515 | ====== |

[a] More-efficient products may have been introduced to the market since this information was published.