

BIG QUBE

BLOCK ICE PLANTS



by



- **BMIL International, Inc.** designs and builds block ice plants from one metric ton to 50 metric tons daily production (24 Hrs.). Plants are available to produce block sizes of 15 kgs. to 150 kgs., 50 lbs. to 400 lbs.
- **BMIL International, Inc.** has been a leading source of manufactured block ice plants and refrigeration systems, for both the U.S. and international markets for over 25 years.
- **BMIL International, Inc.** can assess your present block ice operation and offer suggestions to make it more efficient and increase production. Replacement components are available.

Freezing Tank

Freezing tanks, as a rule, are too large for shipment, so they are shipped as pre-cut steel sheets, complete with structural steel bracing, grid supports and grid guides for welding at the job site, based on drawings and design provided by BMIL International. Standard tank metal thickness is 3/16" (4.2 mm). Alternatively, tanks can be factory assembled and mounted on structural steel base (up to 12.5 MT/Day capacity).

Evaporative Coils

Brine cooling coils are a special BMIL design, built in separate sections, utilizing square tubing headers of Sched. 40 (3.15 mm wall) runners. Each section is tested at 100 psi (7.03 kgs/sq. cm) air pressure while submerged in water, and again at the same pressure when sections are assembled. Stainless steel tube bundles are also available on special request.



These coils are unique in that the sections are assembled on the correct centers to accommodate a wide variation of brine flow. The flow required for the ice freezing cans can then be accommodated by a variation in the section spacing. Each coil is designed for your unique plant, for high heat transfer capability.

Coils are flooded for ammonia, direct expansion for R22 or R404A. A correctly sized accumulator with electric liquid level control is supplied for ammonia, a thermal expansion valve with distributor and electric shut off valve is supplied for R22 R404A. This type cooling coil is incomparably the best heat transfer surface ever devised for large volumes of liquid (brine) to be cooled.

Agitators

Because of the critical relationship of volume, velocity, friction head, heat transfer rates and efficiency, the agitators use impellers, V-belt driven for precise control of speed, ball bearings for axial and side loads at the shaft pulley end and a bronze guide bearing at the propeller end, submerged in the cold brine, assuring many years of trouble free service. Motors are totally enclosed, with replacement motors available around the world.



Grids

Cans are normally grouped together in steel grids for lifting with the ice crane. The grids are fabricated from structural steel and plate. Metal thickness and weight vary according to plant tonnage and can size. Painted grids are standard, galvanized grids are available at extra cost.

Ice Cans

Cans are made for block weights in both kilogram and pounds sizes. While we can supply almost any size can, common sizes are of 300, 150, 100, and 50 lbs., or 150, 75, 50, 25, and 15 kilograms. Cans are fabricated from galvanized steel sheets, with machine welded side seams. Generally the sheet is 16 gauge (1.62 mm) for the sides and bottoms. 14 gauge (1.99 mm) bottoms are used in larger can sizes. Galvanized steel bands are welded to the tops of the cans for lifting. Stainless steel cans are available at additional cost.



Air agitation

Includes air blowers, laterals for grids with the necessary connecting hoses, check valves, drop tube for each can, core sucker pump, core sucker and hose, core re-filler, and hose and air headers (for clear block).

Crane

Cranes will vary from hand pushed cranes with electric hoists to fully motorized cranes, hoists and trolleys complete with all necessary accessories including crane rails and suspended "walking" controls.

Can fillers

Can fillers are supplied to fill from one can to ninety cans simultaneously. Individual compartments, one for each can, insures accurate metering to each can. All material in contact with water is galvanized steel. Individual filler spouts are supplied for each can. Float valves are supplied for fillers for 12 cans or less, float switch and electric valve for more than 12 cans. A structural steel platform is supplied for wall mounting or for customer supplied supports.

Covers for cans and brine

In most cases we find our clients are able to make their covers locally, for which we supply the necessary drawings. BMIL will quote and supply can covers upon request.

Can dump

A pivoted platform for removing ice from the cans, and operated by the ice lifting crane. The dump is fabricated from structural steel, and lined with wood to protect the cans.



Refrigeration system

Compressors

For plants of 15 metric tons per 24 Hrs. or less we will furnish packaged indoor or outdoor systems with semi Hermetic compressors using R-22, R-404a or R-507.

For larger plants the standard will be industrial reciprocating or screw compressors, R-717 or R-22, with all the necessary accessories and components, with direct connected motors, starters, oil cooling, oil trap, etc., all mounted on a single base.

Condenser

The standard condenser for industrial compressors is the evaporative type, complete with water pump, blower, motors and starters, housing, water pan, float valve and automatic blow down. Shell and tube condensers with cooling towers are optional. Remote air-cooled condensers are preferred in many locations depending upon THR.

Receiver

Receivers of proper size for complete liquid refrigerant pump down are standard. Receivers for 300 psi (21 kgs/cm sq) operating pressure are standard. Receivers are supplied complete with stands and fittings as required for ammonia or R22, when industrial refrigeration plants supplied.





Packaged Block Ice Plants by **BMIL International** are designed for shipment already assembled as much as possible into a single unit, with little or no installation work at the job site.



These plants are assembled on a skid ready to operate, except for the overhead crane and can filler.

Can Size	L	W	H
33lbs. (15kgs.)	5" (127mm)	10" (254mm)	30" (762mm)
55lbs. (25kgs.)	6" (152mm)	12" (305mm)	33" (838mm)
110lbs. (50kgs.)	6" (152mm)	14" (356mm)	51" (1295mm)
100lbs. (45kgs.)	8" (203mm)	16" (406mm)	36" (914mm)
300lbs. (136kgs.)	11" (279mm)	22" (559mm)	51" (1295mm)
400lbs. (181kgs.)	11" (279mm)	22" (559mm)	63" (1600mm)



Recognized World Leader In Superior Flake Ice Machines

- **Durability**—Worldwide Reputation for its Heavy-Duty Design and the Longest Evaporator Warranty of any Ice Flaker Machine in the World.
- **Low Maintenance**—Superior but Simple Design with Few Wear-to-Work Parts. It has the Lowest Maintenance Cost in the Industry.
- **High Capacity & Fast Recovery**—Accurate Capacity Based on **ARI** Production Standards and Continuous Operation that Generates 100% Dry Ice.
- **Energy Efficiency**—Highest Efficiency of all Flake Ice Machines, Requires the Least Amount of Unit Energy per BTU Unit of Ice.
- **Flexibility**— Compatible with R-22, R-404a, R-507, R-717(NH₃) and Glycol Refrigerants. Available for Fresh or Seawater Ice Production.
- **High Quality Ice**—Enhanced Surface, 100% Dry, Crisp, Sub-Cooled Ice That Cools Faster and More Efficiently Than Other Ice.
- **Functionality**— Perfectly Matched and Optimized to a High Efficiency **Keeprite** Condensing unit, Air or Water Cooled, Global Voltages Available and Suitable for Operating in Any Environmental Conditions.



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