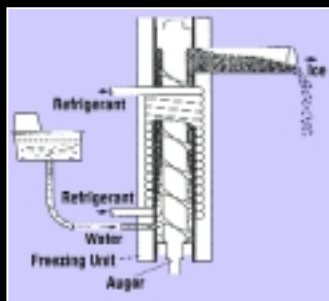


Principle of Operation



The Ziegra, German-engineered, stainless steel evaporator is the heart of the Manitowoc/Ziegra flake ice machine. Water flows from a storage container in the machine to find its own level in the ice making cylinder. The cylinder is surrounded by an evaporating coil (R404A) so that the water is frozen on the inside of the cylinder with an evaporation temperature of 1°F to -22°F (-17°C to -30°C). The ice is then removed from the cylinder wall in a thin layer by an auger which revolves inside the cylinder and pushes the ice upwards. This method allows the new incoming water to be frozen without loss of cooling capacity. Because the ice is produced on the inside of the cylinder, the refrigeration system on the Manitowoc/Ziegra machine is completely sealed. Refrigerant losses due to moving parts in the refrigeration system cannot occur.



Cleaning System



Manitowoc/Ziegra flake ice machines include technology that allows the initiation and completion of the cleaning cycle at the flip of a switch. This cycle will permit cleaning of the evaporator surfaces that come in contact with water. Periodic sanitizing must be performed on the bin and adjacent surface areas which are not contacted by the water distribution system. Depending on local water conditions,

Manitowoc recommends initiating a cleaning procedure every 30 days. This preventative maintenance removes mineral buildup from the evaporator, to ensure the ice machine operates at peak efficiency and provides lower operating costs.

Feature Benefit

Combination Inlet Water Valve

Shuts off at higher pressure.
Does not cycle continuously when making ice.
Cannot leak in "off" cycle.

Drain Valve

Periodic water flush (every 100 hours run time).
Stagnant water drain during shutdown for improved sanitation.
Automatic flush system allowing cleaner to be added without removal of any critical parts.

External Water Supply Can Be Left On When Removing Water Reservoir and Parts For Cleaning

Simplifies operation.
Saves time.

Water System

Manitowoc/Ziegra flake ice machines feature a unique water valve that allows water to be metered in continuously as the machine is making ice and shuts off the water supply when the machine is shut down. The water is then drained during shut down periods so stagnant water is not left in the machine. The water and control systems are designed with a maintenance cleaning feature that allows for the addition of cleaning solution during an automatic flush cycle. The machine then runs through a series of clean and rinse cycles in order to clean lime and scale from the evaporator. This feature is available only on Manitowoc/Ziegra machines. For easy maintenance all parts that require cleaning, including the water valve and reservoir, can be removed from the machine without tools and without shutting off the external water supply.



Control System

Manitowoc/Ziegra flake ice machines incorporate a microprocessor base control system that monitors gear motor speed, incoming voltage, water level, and discharge temperature.

The control board protects against brown outs, which are low voltage conditions, that are detrimental to flaker machine life. Discharge temperature sensing protects against low ambient operating conditions and loss of refrigerant charge. A speed sensor monitors gearmotor operation.



The Manitowoc-designed control functions are microprocessor controlled and do not require manual reset (low pressures controls) or require fuse protection.

Feature Benefit

Motor Speed Monitoring

Torque detection by direct measurement.

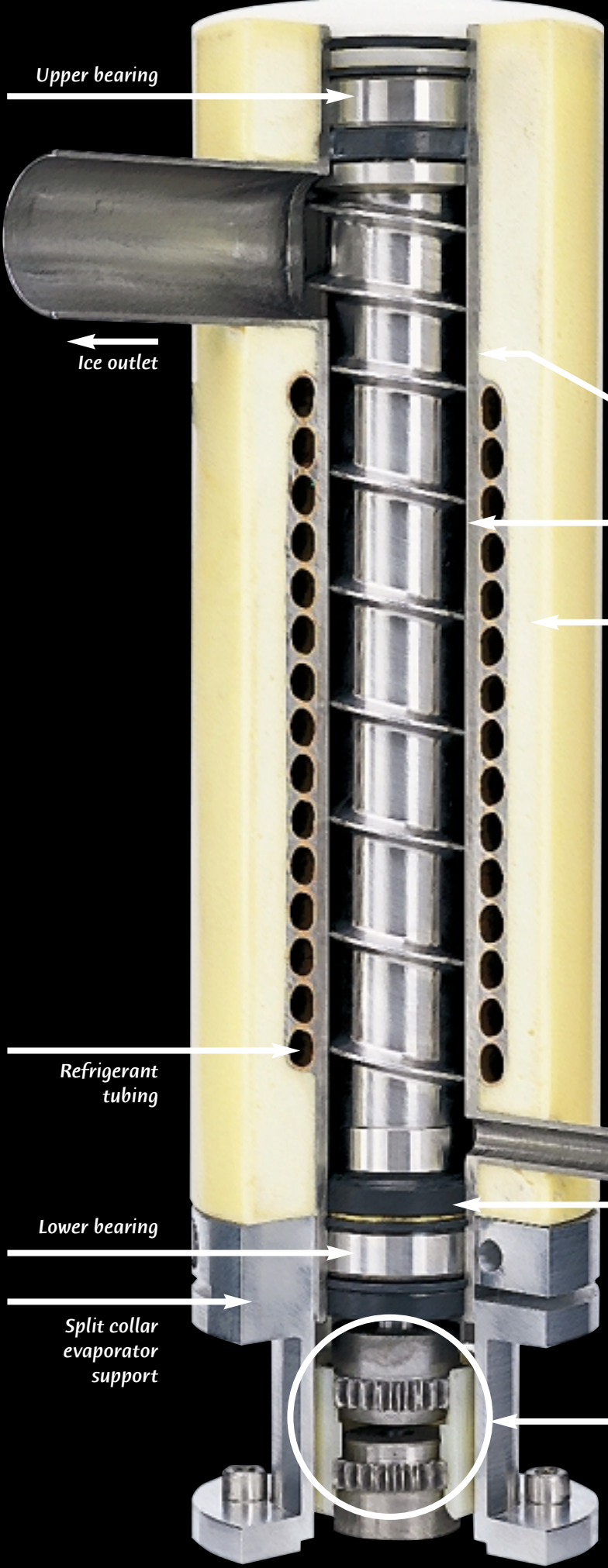
Discharge Temperature Sensing

Protects against low ambient conditions.

Guards against loss of refrigerant charge.

Proven German Engineering

Proven German engineering is evident by the precision fit of the Manitowoc/Ziegler flake ice machine evaporator drive system. Ziegler's 25 years of experience and commitment to quality results in numerous design advantages. The flake ice machine evaporator is designed and manufactured in Germany to precision tolerances. The drive system includes a flexible coupling to better transmit the gear motor torque to the freezing unit and a split collar evaporator support to evenly distribute the coupling forces around the evaporator cylinder. All of these features are included to reduce wear and tear and provide longer life for the water seal and bearings.



Upper bearing

Ice outlet

Three times the industry standard wall thickness for high strength and durability

Heavy duty, precision-machined, stainless steel evaporator

Densely packed foam to keep moisture away from refrigerant tubing

Refrigerant tubing

Lower bearing

Split collar evaporator support

Water inlet

Water seal

Flexible drive coupling

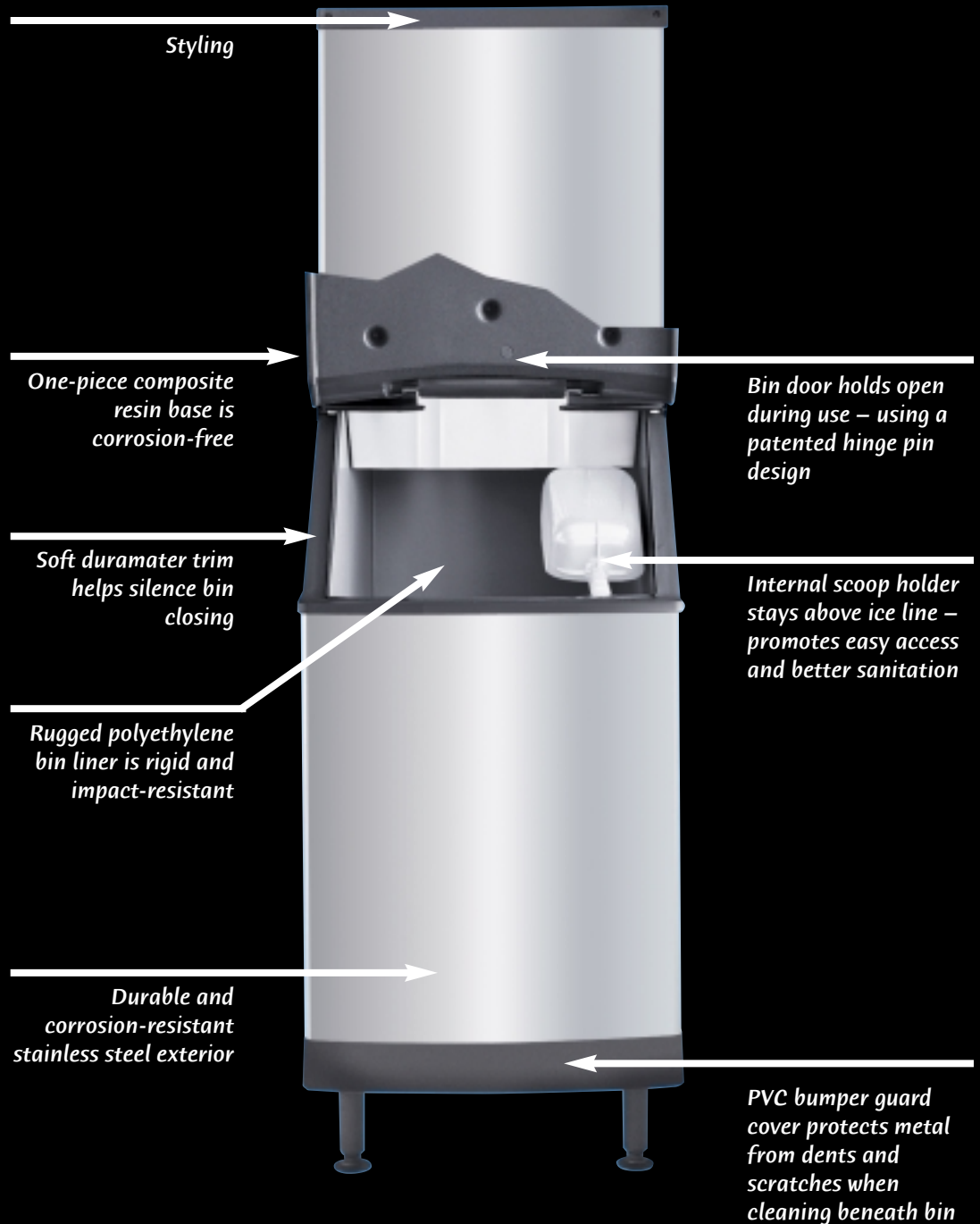
Feature Benefit

Double Bearing Support of Auger	Reduced maintenance. Longer life of water seal.
Split Collar Evaporator Support	Improved water seal and bearing reliability.
Aligned Shaft Coupling	Precise alignment ensures reliable performance.
Evaporator Drain Valve	Easier cleanability, improved sanitation, and less maintenance.
Stainless Steel Evaporator	Longer life. Corrosion Resistant.

Form with Function

The flake ice machine Q Series cabinetry borrows from the science of ergonomics – or human engineering: It combines form with function. In addition to its sleek, gleaming stainless curves, there are obvious enhancements, like a built-in scoop holder, a door that stays open while in use, and a protective bumper guard. Its rounded front panel with stainless steel wrap and ABS gray accents adds durability and beauty. The compression-molded composite resin base enhances structural strength and is corrosion free. The soft durameter trim of the companion ice storage bin helps silence bin door closing. And, the PVC bumper guard cover protects metal from dents and scratches when cleaning beneath it.

All these features help define what an ice machine should deliver in terms of productivity, ease of use, sanitation and reliability. Overall, creating an even better value in flake ice machines.



Warranty

- 2-year parts and labor coverage on all components.
- Additional 3-year (5-year total) parts coverage on ice machine compressor.

