



NC[®]class



Q u i e t B y D e s i g n

184 Factory Assembled Models
Cell Capacities of 99—1274 Tons



Marley

*Four-cell NC Class cooling tower
serving a municipal power plant.*



The Result of Sound Engineering



The NC Class not only sets the benchmark for low sound levels it also sets the benchmark for some of the highest crossflow tonnage densities per box in the industry. For over 50 years NC cooling towers have delivered thermal performance, low maintenance, versatility of options and outstanding value. But, of even greater significance, the NC Class is now quieter.

The redevelopment, redesign, the “evolution” of the NC cooling tower into the NC Class was the first project at Marley Cooling Tower to fully utilize and employ our new ISO 9001 Certified “Product Development Process.”

■ Long Life Construction

Available in series 304 stainless steel or rugged G-235 heavy mill galvanized steel. Marley ISO certified plants assure quality factory-assembly. Plus, the NC Class Diamond Series stainless steel tower comes with Marley's exclusive 5-year limited warranty.

■ Low Operating Costs

Marley's high-efficiency fill and fans, gravity-flow water distribution, and efficient Geareducer® drive work together to offer maximum cooling with minimum power use.

■ All Season Performance

Performs as specified in the heat of summer—responds well to energy-management techniques in the spring and fall—operates virtually ice-free in the dead of winter—and offers simple maintenance all year long.

■ Real World Design

Designed for severe wind, seismic, shipping, operating and live loads.

■ CTI Certified

Plus, Marley guarantees the thermal performance of each tower as installed.



■ Factory Mutual Approved

Currently 123 NC Class tower models are FM approved without any added cost.



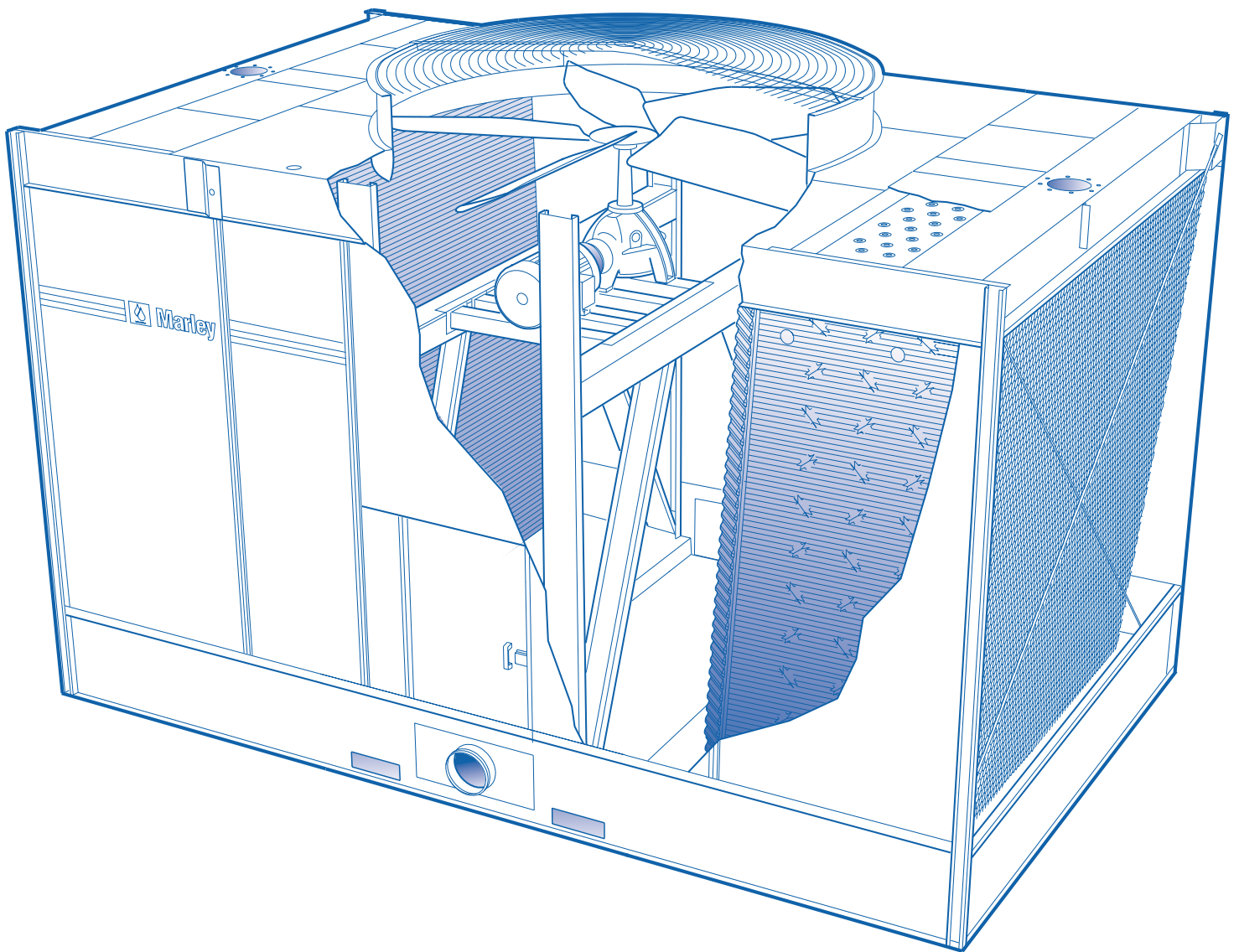
Proven Design Guaranteed Performance

All of Marley's major production facilities are ISO 9002 certified. Assures confidence your NC Class tower will perform as promised.



NC[®]class

In a Class by Itself





Features and Benefits

■ Air Movement Package

- Removable fan guard—welded heavy gauge rods. Hot dip galvanized after fabrication.
- Eased inlet fan cylinder—ensures full area, low turbulent airflow through the cylinder.
- High efficiency fan—wide-chord aluminum alloy designed for maximum efficiency at low fan tip speeds.
- Marley System 5 Geareducer—requires no oil changes for five full years. Offers significant savings in maintenance costs.
- Marley Softork™ coupling—absorbs excessive shock loads at start-up. Forgives minor misalignment between the motor and Geareducer.
- TEFC Fan Motor—1.15 service factor, variable torque, and specially insulated for cooling tower duty.
- The NC Class air movement package including the structural support—guaranteed against failure for a period of five full years. The motor is warranted separately by the motor manufacturer.

■ Water Distribution System

- SystemConnect choices of piping connection options—single inlet, dual inlet, top, side or bottom inlet, side outlet or bottom outlet—designed to have the right connections for your application.
- Gravity flow distribution system—allows easy, nonrestrictive maintenance. Basin covers are standard.
- Marley Spiral Target polypropylene nozzles—delivers precise distribution over water of the fill area.
- Marley MX thermoformed PVC film fill—suspended from structural steel tubing. Integral louvers keep circulating water confined to fill, even at low air rates.
- Drift Eliminators—limit drift losses to no more than .005% of the design GPM flow rate.

■ Structure

- Crossflow configuration—provides easier and safer maintenance.
- Series 304 stainless steel or G-235 heavy mill galvanized steel construction.
- Factory assembled—ensures final field installation will be hassle-free.
- Two large access doors—provides nonconfining, quick visual inspection of cold water basin, internal structure, drift eliminators and mechanical equipment in the plenum area.



All NC Class cooling towers are designed for low sound levels using high blade-count, wide-chord fans for maximum efficiency at low tip speeds. For those extreme, low sound applications, consider Marley's NC Class low sound "L" models. To achieve the very lowest possible sound levels while maintaining efficiency, Marley carefully selected the best available combination of motor, gear ratio, fan blade count and blade profile for all "L" models.

Mechanically Correct Quiet by Design

■ High Efficiency Axial Fan

Adjustable-pitch fan blades permit maximum utilization of rated horsepower—allows field adjustments to optimize tower performance.

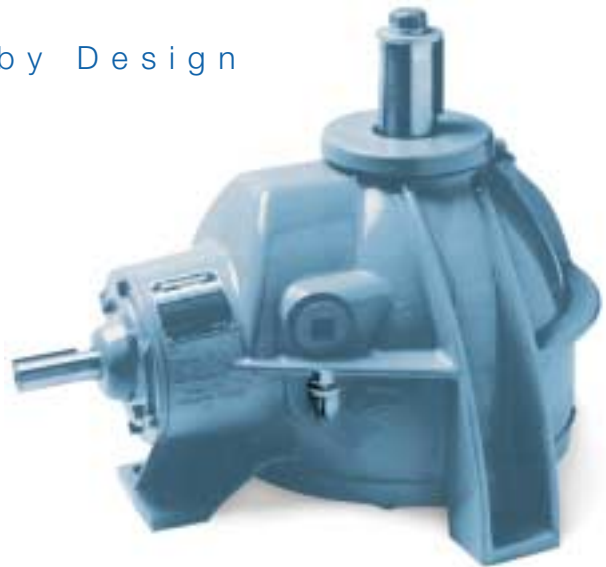
■ System 5 Geareducer

No oil changes required for five full years—the lowest maintenance requirements in the industry. Reduced waste stream and environmental impact.

Independent testing has proven a Marley Geareducer is up to 4 dBA quieter than the gearboxes used by most other cooling tower manufacturers.

■ Fan Motor

TEFC 1.15 service factor, horizontal-shaft motor designed to Marley specifications for cooling tower duty. Specially insulated for humid cooling tower service.



Marley 2400 Geareducer

■ Softork Coupling

Absorbs excessive shock loads at start-up—forgives minor misalignment between the motor and Geareducer.

■ Five-Year Mechanical Warranty

Five-year total mechanical equipment warranty including mechanical equipment support, plus Marley's exclusive 5-year maintenance-free Geareducer.

Available Options

- **Single Inlet Connection**—choose from either side inlet or bottom inlet connections. All piping from the inlet connection to the distribution basins is part of the tower package*.
- **Handrail and Ladder**—provides sturdy and stable access to the top of your tower. Ladder safety cages and ladder extensions are also available.
- **Access Door Platform**—steel structure and bar-grating attached to and supported by the tower. Full length bar grating interior walkways are also available.
- **Mechanical Access Platform**—provides internal ladder to elevated bar-grating platform with handrail, facilitates maintenance access. Exterior platform with ladder and handrail also available for outside motor option.
Modular tower only.
- **Motor Location Outside**—easily accessible and is not subjected to the constant humidity that exists inside the tower plenum. This option uses a Marley full-floating stainless steel driveshaft.
- **Distribution Basin Dam**—allows significant variations in flow rates while protecting the tower from the disadvantages of poor water distribution—icing, fill scaling and erratic performance. Permits the operator to stage chillers and pumps, and still circulate water efficiently over all cooling tower cells with the benefit of dramatically reduced fan hp for a given heat load.
- **Control Systems**—ranges in sophistication from standard fan starters and disconnects to Programmable Logic Controllers that work in conjunction with your building or process system.
- **Variable Speed Drive**—provides the ultimate in temperature control, energy management, sound control and mechanical equipment longevity.
- **Solid State Water Level Control Package**—monitor basin water level with solenoid-valve water makeup. Configurations include makeup along with high and low water level alarm and cutoff and electric basin heater cutoff.
- **MARLEYOZONE™**—water treatment for the 21st century. Usually removes the requirement for other chemical treatment feed systems.
- **Stainless Steel Collection Basin**—all collection basin parts exposed to the circulating water including structural members projecting into the basin, plus attaching hardware, and all basin options, including sumps are heavy-gauge series 300 stainless steel.
Galvanized steel tower option.
- **Stainless Steel Distribution Basins**—corrosion is usually most aggressive in the hot water distribution basins. Stainless steel provides long, trouble-free service life.
Galvanized steel tower option.
- **Extended Geareducer Oil Line**—includes a dipstick to check Geareducer oil level. Located at the fan deck level near the side of the tower.
- **Air Inlet Screens**—keep leaves and debris out of the tower with factory-installed, U-edged, galvanized wire mesh screens over the air inlets.

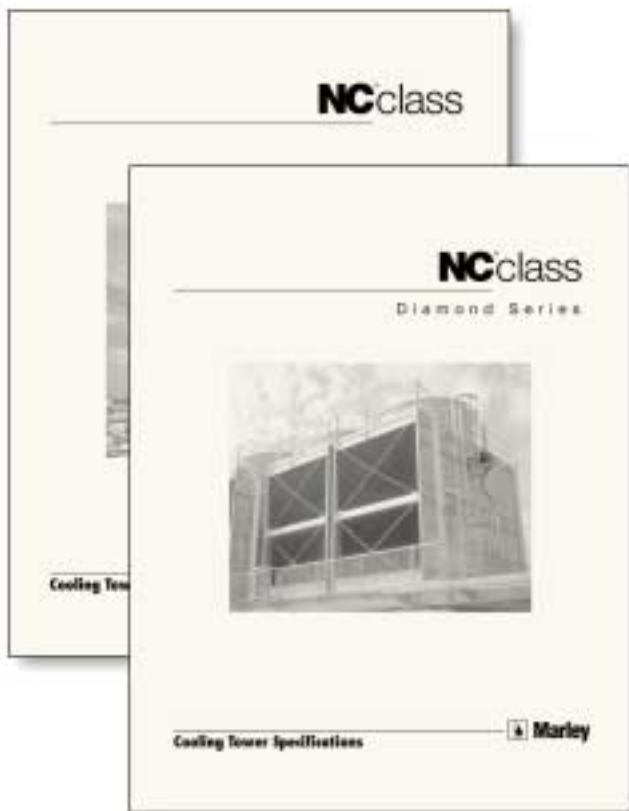
** Standard pipe material is schedule 40 PVC. Steel piping is available as an option and/or where FM approval is required.*

*One of the larger multicell NC Class models
with a variety of options including: motor outside,
handrail, ladder, ladder safety cage.*

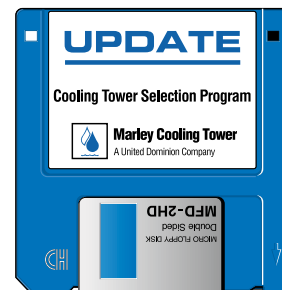


Technical Reference Manual **TECH NC** provides quick thermal ratings at typical operating conditions, along with engineering schematics, data, and information necessary for initial tower layout. See your Marley sales representative for a free copy.

Product Specifications **SPEC SSNC** and **SPEC NC** detail the tower in the form of specification language, and provide technical as well as common-sense information on the importance of your specifications. **SPEC SSNC** applies to the stainless steel NC Class models and **SPEC NC** applies to the galvanized NC Class models. See your Marley sales representative for a free copy of each.



Marley's **UPDATE™** software provides model selections perfectly tuned to your cooling water system. Functions include model selection, specifications, sound data, model optimization, performance curves, engineering data, and *free cooling* applications. See your Marley sales representative for a free copy.



If we can help in any way, feel free to call us. To find the Marley representative nearest you call 913 664 7400 or check the internet at www.marleyct.com.



Marley Cooling Tower

A United Dominion Company

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In the interest of technological progress, all products are subject to design and/or material change without notice.
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Note: For economical transportation, NC Class towers are normally packaged unassembled when shipped from the US by sea or air freight.