

# 800 class

COUNTERFLOW COOLING TOWER

MARLEY® 



## Design integrity – Design flexibility



*Medical Center HVAC system*

The Marley 800 Class counterflow concrete cooling tower has proven itself as one of the most efficient and reliable cast-in-place designs in the world. The introduction of the Precast 800 version is a logical design evolution taking advantage of increasingly available quality precast production facilities.

Locally-produced concrete components keep work in the country of origin, provide better dimensional control, and greatly enhance scheduling by virtue of concurrent construction capability.

### **MAKING GOOD ON OUR COMMITMENTS**

#### **FOR OVER 90 YEARS**

Each Marley concrete cooling tower is analyzed and designed by our engineers who collectively have over 200 years of product history. When Marley cooling towers require periodic inspection, they can be serviced by the same engineers who originally designed them—professional engineers who are dedicated to the special requirements of concrete tower design.

### **THE ENVIRONMENTAL CHOICE**

Class 800 towers are hurricane and typhoon resistant by virtue of mass, and concrete defies the detrimental effects of heat and ultraviolet light.

Concrete is a natural material which is ideally suited for long service life in the harshest cooling tower environment. And concrete will never degrade the quality of cooling water circulating through the tower.



*Unobstructed Marley counterflow fill installation*

## Proven design, exceptional structural materials



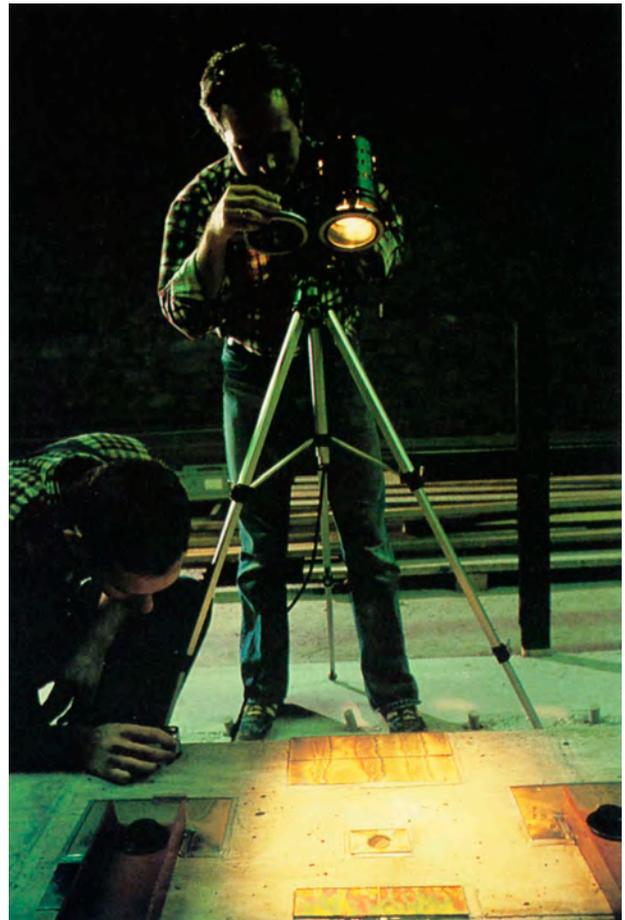
*Power Station in Alabama*

### **DESIGN FLEXIBILITY**

800 Class towers are available in a wide range of optimum cell sizes—"preferred" configurations that fully utilize Marley fill and nozzle geometry. However, since our primary goal is customer satisfaction, we can solve your particular requirements with special cell sizes.

Within each cell size, our design engineers can choose from numerous possible component combinations. Several options may result in economical selections capable of the thermal performance requirements, but only one will optimally satisfy the fan horsepower, pump head, plan area and other evaluation parameters contained in your specifications. Our engineers review each cooling tower application to assure that the components selected will work together as an integrated system for efficient performance and long life.

And finally, we offer precast concrete for jobs where schedule and economics favor an "assembled" product, or cast-in-place when in situ forming and casting are favored.



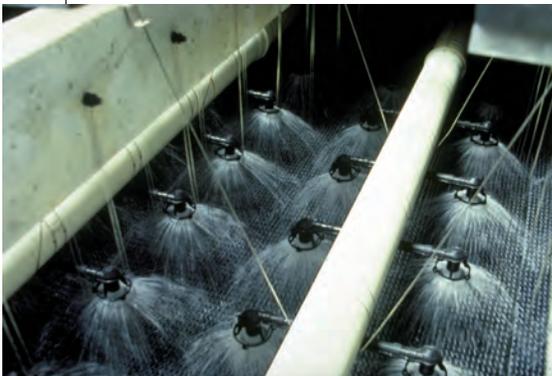
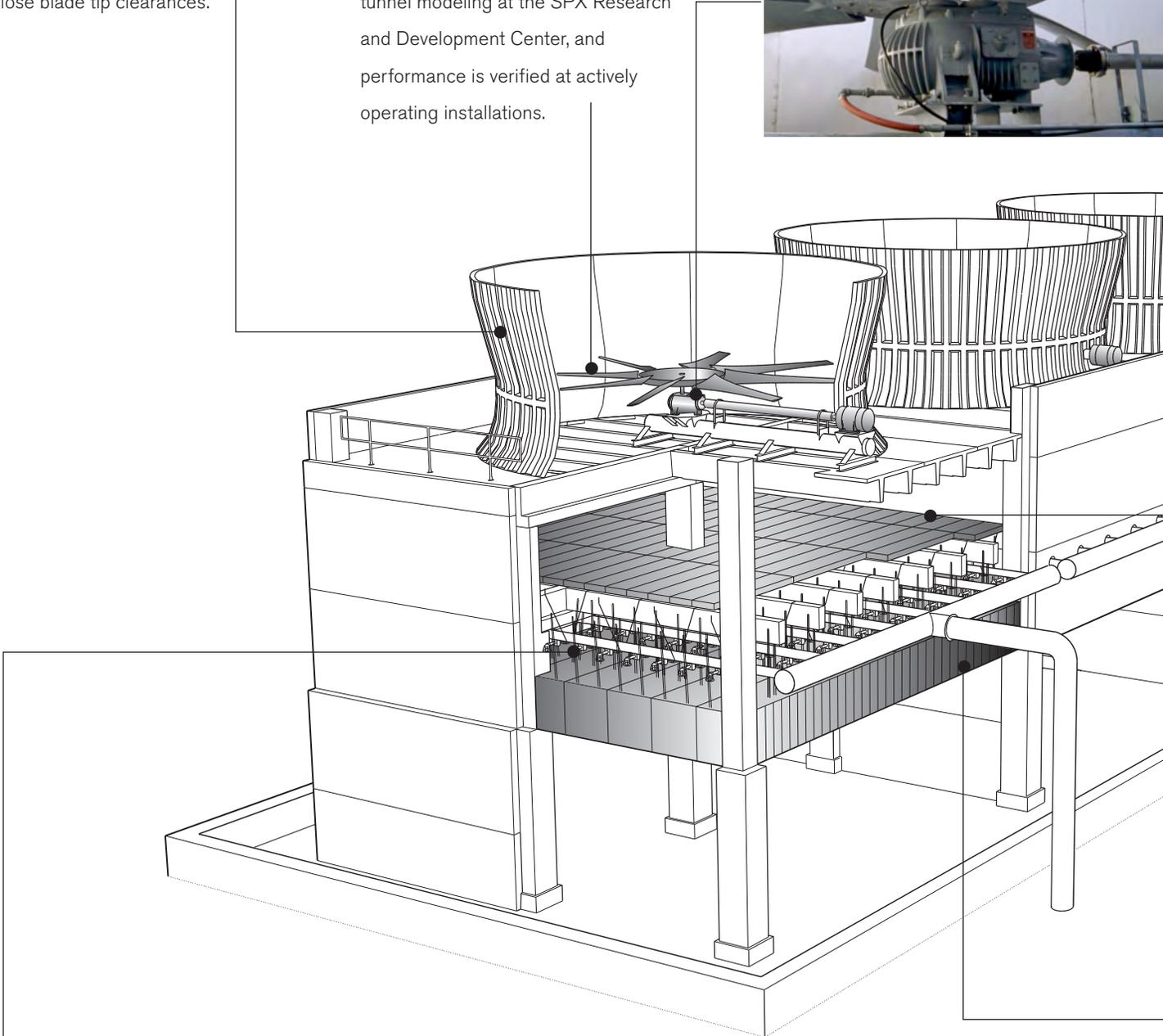
*Concrete stress test at the SPX Cooling Technologies Research & Development Center*

## PEAK FAN PERFORMANCE

Marley FRP fan cylinders feature venturi-shaped eased inlets and close blade tip clearances.

## TEST PROVEN

Marley-manufactured fans are selected using test data from wind tunnel modeling at the SPX Research and Development Center, and performance is verified at actively operating installations.



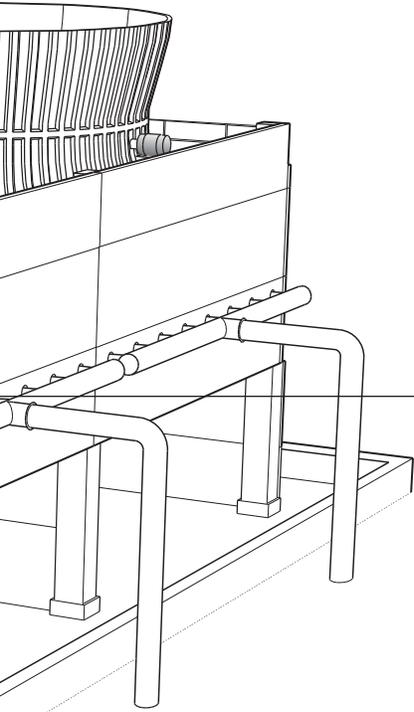
## NON-CLOGGING, LARGE-DIAMETER NS NOZZLES

The spray system consists of large-diameter Marley NS spray nozzles and additional components. These assure a uniform flow and low operating pump head.

Plus, they free you from the expense and nuisance of cleaning clogged nozzles. The Marley NS low-pressure, non-clogging nozzle has a consistent "solid cone" downspray pattern to assure uniform water distribution for proper thermal performance.

### **DURABLE MARLEY GEAREDUCER®**

Marley Geareducers have become the industry standard. They are designed to meet or exceed the requirements of CTI STD-111 and AGMA standards, and are tested under load prior to shipment. Numerous reduction ratios are available so that power is applied at optimum fan speed.



### **SIMPLE MAINTENANCE**

Each Geareducer is equipped with an industrial grade lubrication line, terminating outside the fan cylinder near the motor, at an oil level sight glass and drain.

### **EFFECTIVE WIND CONTROL**

Longitudinal “wind walls” extend downward from the bottom of the fill to normal operating water level to keep high winds from blowing through the tower. They also assure proper air supply to the fill.

### **MARLEY XCEL® TU DRIFT ELIMINATOR. VERY LOW DRIFT RATES**

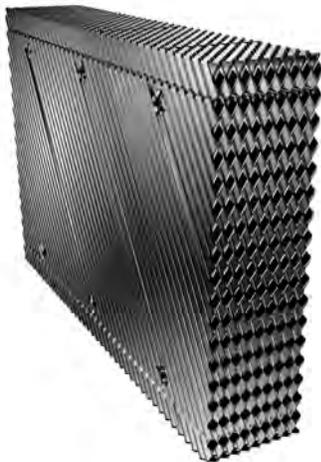


The first cellular drift eliminator was developed by Marley over thirty five years ago when eliminator designs were primarily blade-type configurations and not very effective. Marley patented the XCEL generation of eliminators in the early 1980s. No other eliminator could come close to XCEL's low drift rate and low pressure drop.

XCEL TU eliminators—a more advanced design—meets or exceeds today's demanding specifications for drift emissions, without sacrificing fan horsepower.

Low drift rate is the primary goal of eliminator design. XCEL TU eliminators boast typical drift rates of .001% of the total gpm. Drift rates of .0005% and lower are available, depending upon the tower duty.

Ask your Marley sales representative for more information.



### **TOUGH HIGH-PERFORMANCE FILM FILL**

Marley high-performance film fill removes process heat efficiently and predictably. The polyvinyl chloride (PVC) fill sheets are formed at the Marley factory to exacting quality and strength standards. Maximum performance or clog-resistant designs are available for a wide range of thermal and water quality requirements. And, our engineers evaluate each cooling tower application, using computer optimization analysis to select the best fill system to maximize thermal performance—thus keeping power consumption low.

## Combining over 90 years of cooling tower experience with over 60 years of concrete experience

The first concrete natural draft towers in North America were built by Marley more than 45 years ago. Since then, we have built more than 30 others. In 1971, we designed and built the first clustered-plume round concrete mechanical draft tower and have since followed with more than 40 others. And, in 1986 we introduced the Marley rectangular concrete cooling tower in both linear and back-to-back configurations—each with its own unique advantages. The rectangular tower success is evidenced by the many customers now specifying these towers for combined cycle, steam, power plants, and petrochemical applications.



*Refinery in Indonesia*



*Power Station in Thailand*

# Concrete fits the Marley “Total Systems” approach

800 Class technology produces a product with definite, predictable and measurable performance. Extensive laboratory, university and field testing for long-term service in various climates and circulating water conditions has enabled us to simulate and evaluate tower longevity and performance.

Here are a few of the advantages of this structure:

- **DURABILITY**

Impervious to a broad range of corrosive substances—immune to rot and decay.

- **FIRE RESISTANT**

Marley concrete counterflow cooling towers with our standard hanging fill are Factory Mutual approved. Sprinkler systems are not required, saving on first cost and maintenance expense.

- **EASE OF CONSTRUCTION**

Local trades have many craftspeople with bridge and building experience, and most cities in the world have concrete mix and precast plants. Concrete alone keeps the majority of your cooling tower costs within the local economy.

- **VERY STABLE**

Coefficient of thermal expansion is less than steel.

- **INTERMITTENT OPERATION**

Concrete is perfect for “cycled” cooling towers as it naturally maintains its structural integrity, whether wet or dry.

- **NON-CONDUCTIVE**

Reduces the hazard of electrical shock.

- **ENVIRONMENTALLY FRIENDLY**



SPX Cooling Technologies can coordinate design and construction between owners, engineers, contractors and plant sites throughout the world. We operate through a comprehensive global network of offices, representatives, subsidiaries, licensees and joint venture partners.

Working in the global arena means we design to and keep current with all international codes and conventions. We understand the labor, financial and other pertinent factors involved in your project.

Our global experience gives us more insight into the particular concerns in your region of the world. We want to put this special blend of expertise to work for you.

You simply cannot work with a more experienced team in the world of cooling towers. Let us show you how SPX can make a world of difference for you.



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