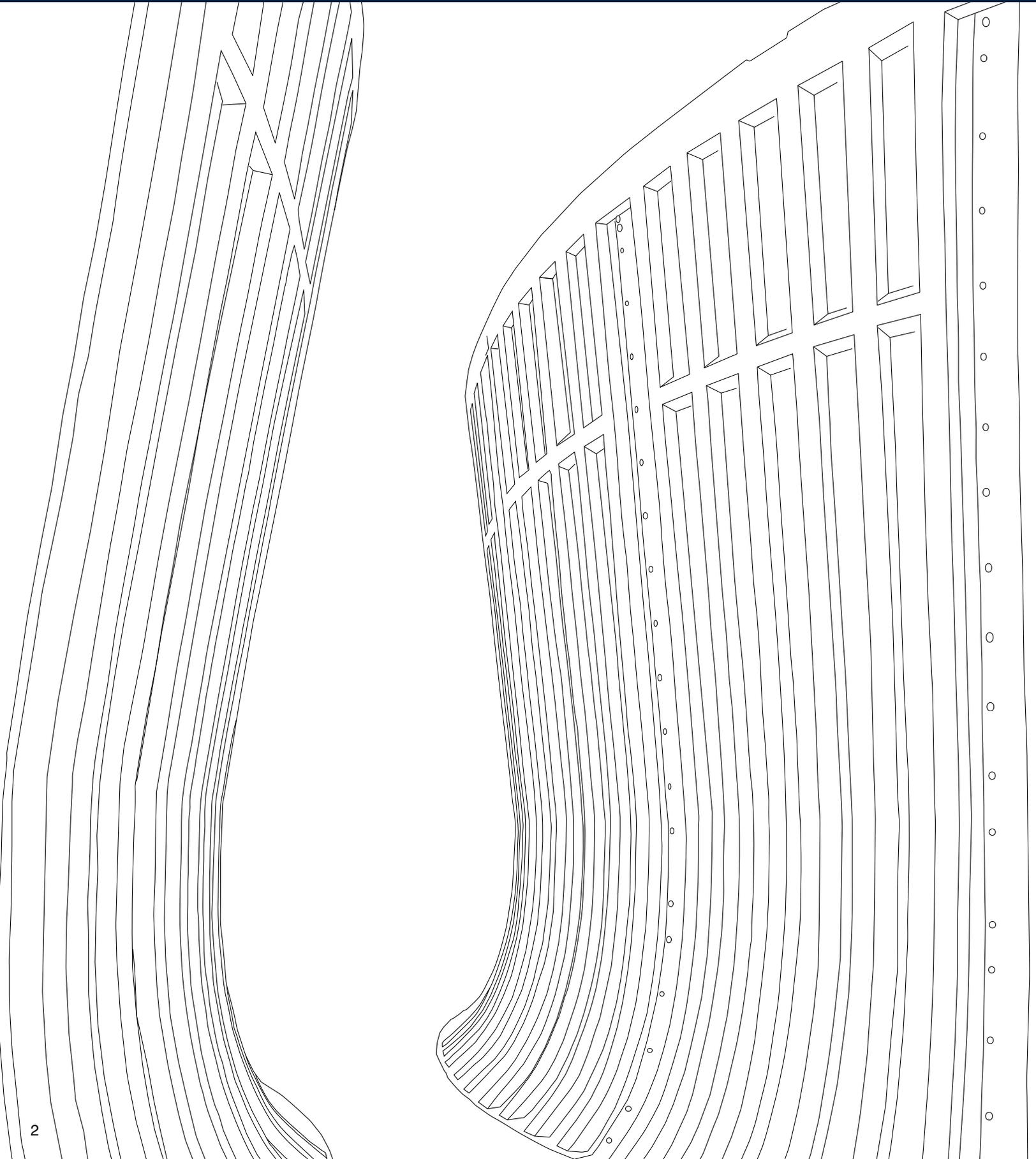


COOLING TOWER
DEPOT[®]
CAPABILITIES



COOLING TOWER DEPOT®

de•pot (noun): The Source.



Cooling Tower Depot® (CTD) is the proven cooling tower supplier for field-erected mechanical draft cooling towers. We have decades of experience in cooling tower design, engineering, project management, and construction. By leveraging this experience we provide our clients with innovative turnkey solutions while keeping cost and performance a priority.

- **INNOVATIVE LEADER IN CUSTOM DESIGN** – When it comes to fiberglass, wood or concrete new tower designs, the repair or replacement of an existing tower, thermal upgrades, inspection, or disaster-recovery, CTD will provide the right solution for your cooling needs.
- **UNBEATABLE SERVICE ON EVERY LEVEL**– CTD has supplied hundreds of clients with unbeatable service on every level, ranging from complex cooling systems to finding the correct components for quick repairs that will limit your downtime.
- **WEB-BASED COOLING TOWER PROCUREMENT PLATFORM** – Harness the power of our website to instantly “Design and Price a New Tower” using our proprietary DEPOT online tool. In addition to having the ability to instantly price a new tower, you can also receive real-time pricing and e-purchasing on any cooling tower part available via the largest online cooling tower Parts Warehouse worldwide. Combined, these tools provide the ultimate new cooling tower and parts purchasing experience.

From our world headquarters in Golden, Colorado, our team of seasoned professionals work tirelessly to successfully meet each clients requirements, no matter the size, scope, or complexity of the project.

- **SIMPLY THE BEST COOLING TOWERS** – At CTD, we are passionate about building and maintaining cooling towers, period. Our expertise is not diluted by selling ancillary products and systems that distract us from our primary mission of supplying the best possible cooling tower design for your facility.
- **FINANCIAL STABILITY** – Through solid decision making and sound investing, CTD has established a firm standing in the industrial construction marketplace. This position allows us to confidently offer you securely bonded projects based on a broad and stable financial foundation.
- **LONG STANDING VENDOR RELATIONSHIPS** – CTD has established a reputation of solid business practices alongside trusted vendor relationships. We leverage these relationships along with volume component purchasing power to offer cost savings and competitive pricing to our clients.

CTD has built a strong reputation through partner relationships and by providing our clients with the optimal cooling tower that meets their specifications and budget. The CTD team is committed to our clients and we are proud to provide the right solutions for all of your cooling needs.

We are the DEPOT of all Cooling Towers.



NEW TOWERS

TECHNOLOGY LEADER

CUSTOM SOLUTIONS

INDUSTRY EXPERIENCE

GLOBAL PROJECTS

INSPECTION & REPAIR

THERMAL UPGRADES

RECONSTRUCTION

**E-COMMERCE
PARTS WAREHOUSE**

**WEB-BASED COOLING
TOWER PROCUREMENT
PLATFORM**

THE RIGHT COOLING TOWER EVERY TIME



9-Cell Counterflow Tower - Power/Wind Tunnel



9-Cell & 6-Cell Counterflow Towers - Geothermal



12-Cell Counterflow Tower - Gas-Fired Power



10-Cell Counterflow Tower - Geothermal - New Guinea



Nine 2-Cell & One 4-Cell Counterflow Towers - Steel Mill
Tile Fill/Low-Fouling/Splash Fill - FRP and Wood

Heat rejection or cooling devices are an integral part of every facility producing extreme heat. Without sufficient cold water, plant performance is decreased, turbine efficiency is reduced, process production slows, and machinery operates under heat stress. When choosing an evaporative cooling tower design it is important to know the fundamentals of cooling tower performance and selection. The CTD team strives to provide the right cooling tower every time based on your specific design criteria. CTD will decipher and blend all of the variables and then design a cooling tower that produces the cold water needed to meet your thermal and budgetary requirements.

COUNTERFLOW AND CROSSFLOW TOWERS

There are two basic types of field-erected tower designs offered today, the traditional crossflow design or the more contemporary counterflow design. Many elements play into determining what type of tower is appropriate for each end user and CTD will conduct a full evaluation to establish the correct tower design for your application.

Our engineers pay special attention when choosing the correct component that is the best fit for your tower design. It is imperative we define each of the major areas affecting performance.

- Fan Stacks
- Fans
- Gearboxes
- Motors
- Driveshafts
- Drift Eliminators
- Water Distribution
- Heat Transfer Media
- Structure

PERFORMANCE DRIVEN DESIGN

The experts at CTD take all contributing factors into account when designing every custom tower. We begin with your design requirements, ambient wet bulb temperature, altitude, water flow rate, water inlet and outlet temperatures to thermally size your tower. We then evaluate the environmental factors, such as the seismic zone, wind loads, snow loads, and all other applicable loads, to provide a structurally sound tower that will withstand these natural forces. By combining all of these factors with the finest materials for construction, we are able to construct a cooling tower that will withstand the test of time, every time.

THE CTD DIFFERENCE

We are an industrial engineering and construction company who completely dedicates our resources to evaporative cooling towers. CTD doesn't offer manufactured, out-of-the-box cooling towers like our competitors. We custom design each and every tower to meet our client's unique design specifications. By taking into consideration each client's design conditions we ensure that each cooling tower will run as efficiently as possible in each specific environment.

DEDICATION

CTD employs an in-house sales staff that is entirely dedicated to Cooling Tower Depot clients. Our entire staff has one thing on their mind, cooling towers. We do not attempt to sell ancillary systems that distract from our primary mission of supplying the best possible cooling tower every time.

TECHNOLOGY LEADER

CTD is passionate about cooling tower technology and has created its own cutting-edge online design and pricing tool named DEPOT. DEPOT allows you to quickly and efficiently input your design specifications and budgetary evaluations to price your new tower instantly. This powerful tool delivers a full technical proposal including a general arrangement drawing. The tool and proposal enable clients to modify design requirements on the fly and adjust conditions to accommodate the project budget. The end result significantly saves our clients time, money, and effort. Visit www.CoolingTowerDepot.com today to design and price a new tower.

UP-FRONT PUBLISHED PRICING

Why do other cooling tower companies hide their pricing from public view? Why does it cost you time and energy to get a price from them? These are good questions. CTD proudly publishes new cooling tower prices and prices for every part in our online Parts Warehouse. We also offer our clients the opportunity to use DEPOT, our one-of-a-kind online design and pricing tool, to instantly price your new cooling tower, plain and simple.



3-Cell Counterflow Tower - Ethanol



Two 5-Cell Crossflow Towers - Seawater



Three 3-Cell Counterflow Towers - Gas-Fired Power

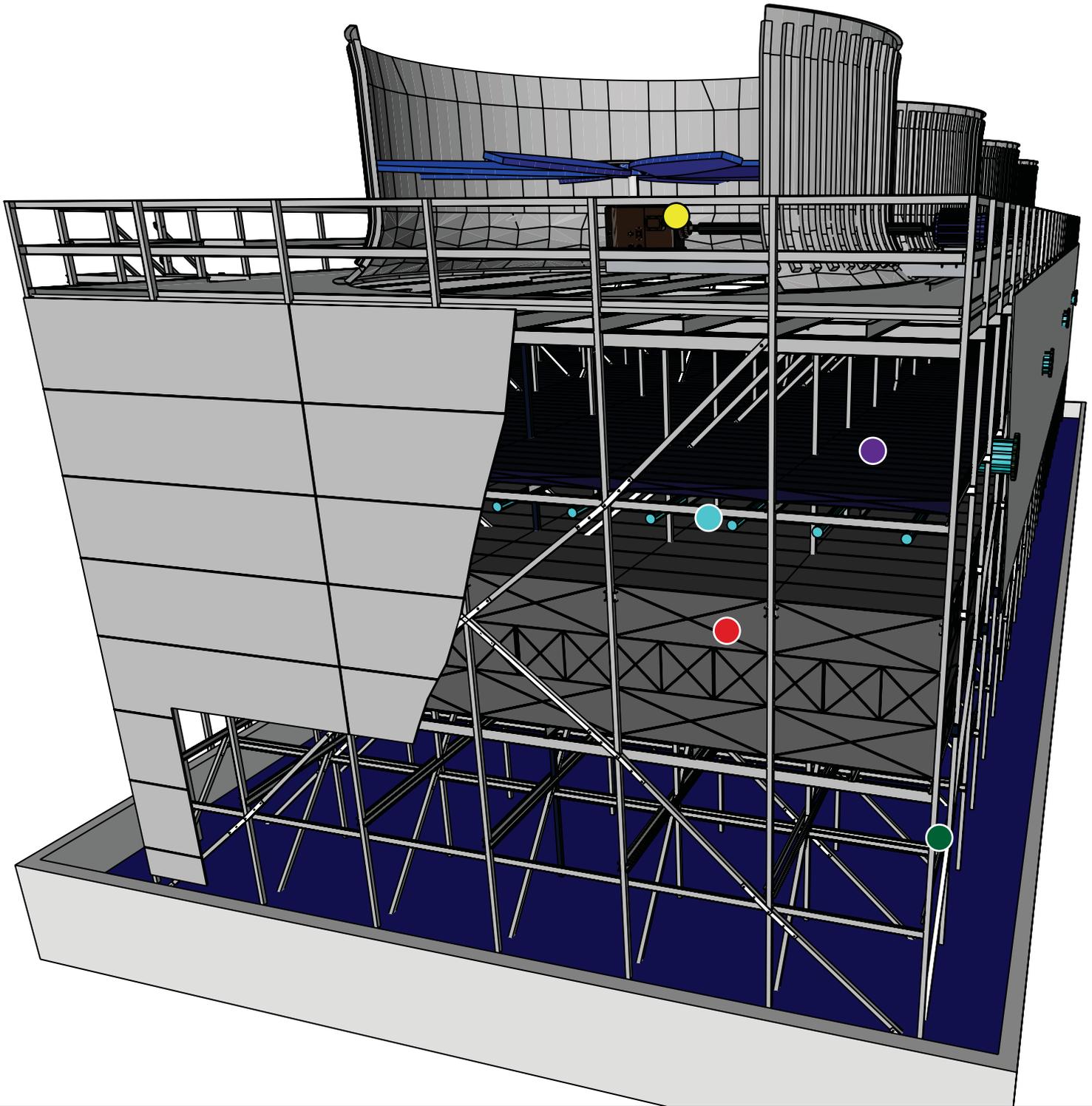


20-Cell Counterflow Tower - Back-to-Back - Refinery



Two 4-Cell Counterflow Towers - Rooftop HVAC Automated-Plume Abated - United Arab Emirates

COUNTERFLOW (CF) PURCHASING PLATFORM



CTD's Counterflow Cooling Towers are a more contemporary tower design. The name is derived by the orientation of the airflow being drawn upward, countercurrent to the falling water. Structurally, counterflow towers can be built from fiberglass, wood or concrete. Typically, the counterflow design is more efficient when compared to its counterpart, the crossflow tower. The simplicity of its rectangular or square cell design, coupled with the installation of high-efficiency film fill, makes the tower more efficient and normally smaller in scope. Additional advantages of the counterflow design are a lower parasitic cost regarding pumping head and fan horsepower, and it is more resistant to icing during winter operation.

ANATOMY OF A CF COOLING TOWER

AIR MOVEMENT



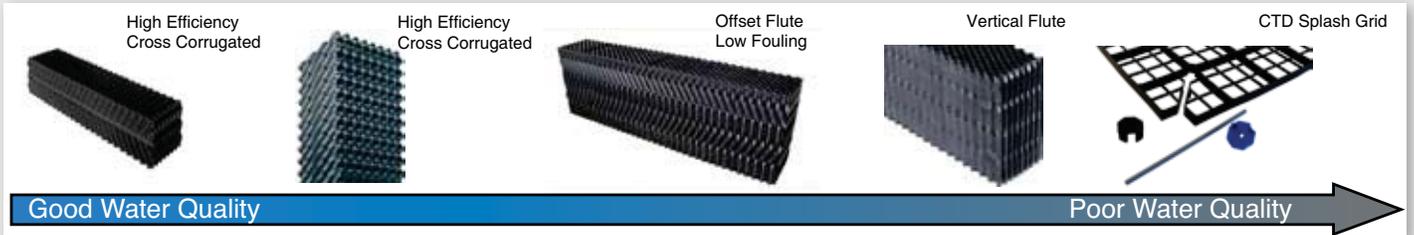
DRIFT ELIMINATORS



WATER DISTRIBUTION



HEAT TRANSFER



STRUCTURE



Wood - Douglas Fir/Redwood



Pultruded FRP (Fiberglass)

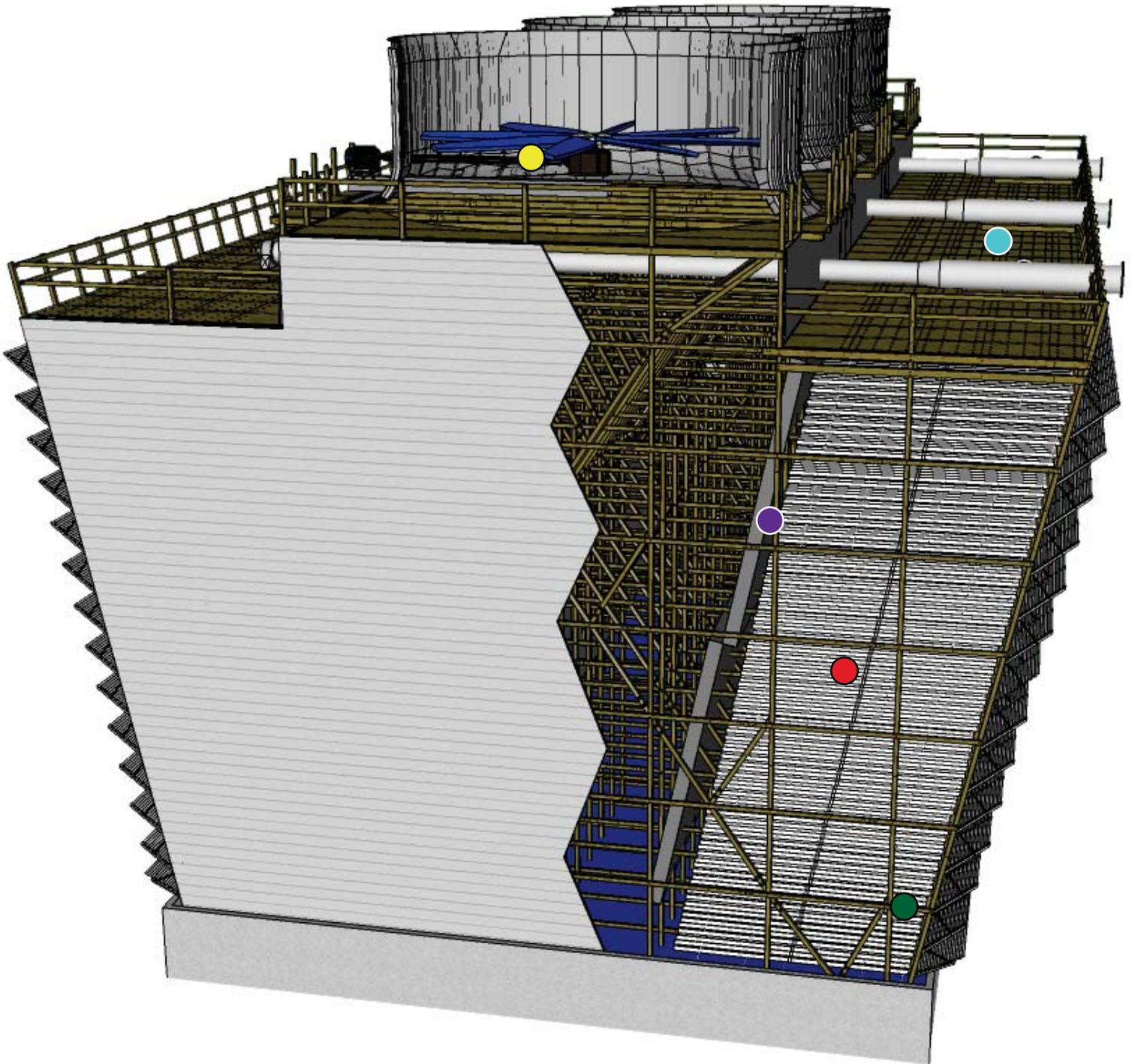


Concrete/Masonry Tower



Airflow travels countercurrent to the falling water

CROSSFLOW (XF) PURCHASING PLATFORM



CTD's Crossflow Cooling Towers are a more traditional tower design. The crossflow design is so named due to the orientation of the airflow being drawn into the tower, perpendicular to the falling water. Structurally, crossflow towers can be constructed from fiberglass, wood or concrete. Crossflow towers are customarily used in poor water quality applications where water treatment is minimal and high suspended solids such as, oils or greases are present in the process water. Additional advantages to the crossflow design are the available access to the distribution system and the plenum area of the tower which allows for easy cleaning and inspection of the tower by maintenance personnel.

ANATOMY OF A XF COOLING TOWER

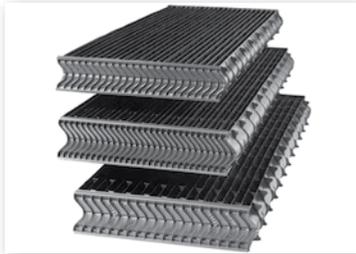
● AIR MOVEMENT



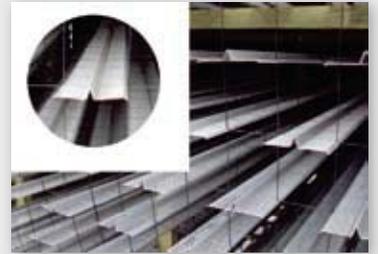
● WATER DISTRIBUTION



● DRIFT ELIMINATORS



● HEAT TRANSFER



● STRUCTURE



Wood - Douglas Fir/Redwood



Pultruded FRP (Fiberglass)



Concrete/Masonry Tower



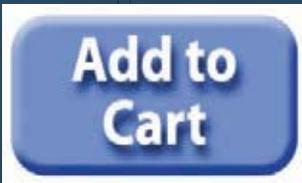
Airflow travels perpendicular to the falling water

INSTANTLY PRICE A NEW COOLING TOWER

Design Evaluate Price Optimization Tool

COOLING TOWER DEPOT SUPPLIES YOU WITH A FULL TECHNICAL PROPOSAL INCLUDING:

- Design Specifications
- Size and Number of Cells
- General Arrangement Drawing
- Thermal Capacity
- Total Material Cost
- Detailed Proposal
- Estimated Man Hours



Design Parameters

Enter Design Parameters:

- Water Flow Rate
- Hot Water
- Cold Water
- Wet Bulb Temp
- Relative Humidity
- Site Elevation
- Water Quality



Evaluations

Enter selections for:

- Fan Power
- Basin Size
- Electrical Budget
- Pump Type
- Pump Efficiency
- Pump Head



Material Selection

Enter the materials:

- Structural
- Fan Deck
- Casing & Walls
- Hardware
- Stairways
- Ladders
- Fan Stacks







CFU DOUBLE WALL TOWER

- Larger FRP Structural Members
- Lower Pressure Drop & Parasitic Cost
- Aesthetically Pleasing
- Reduced Maintenance Time & Resources



ROOFTOP INSTALLATION/REPAIR

- Overcoming Logistical Challenges
- Structural Support
- Noise Abatement
- Architecturally Appealing



CELL ADDITIONS

- Increased Cooling Capacity
- Match Original Cell Dimensions
- Reduced Footprint Requirements
- Reduced Piping & Electrical

UNIQUE COOLING TOWER EXPERTISE

From concept to completion, CTD's engineering department has the ability to create any type of counterflow or crossflow tower including Plume Abated, Double Wall, Low Noise, HVAC, Seawater, and Extreme Cold Weather towers just to name a few. Many projects have unusual challenges including space and environmental requirements, extreme thermal performance, and international logistics. CTD engineers and project managers address each project with a high level of care and consideration to successfully build the best cooling towers in the industry. The company assembles a design and bid proposal providing every client with a one-of-a-kind, field-erected, completely custom tower. CTD makes it simple by providing outstanding, real-time service, and solutions.

DESIGN-APPROPRIATE

- CFU Double Wall
- HVAC/Roof Top
- Low Noise
- Water Conservation
- Seawater
- Seismic Design
- Low Drift
- Plume Abatement

ONLINE CONSTRUCTION/FAST TURNAROUND

- One-Cell-At-A-Time Construction
- Additional Cells
- Disaster/Emergency Replacement

MAINTENANCE - YOUR PARTNER IN COOLING

- New, Repair and Emergency Parts In Stock



ONLINE ONE-CELL-AT-A-TIME

- Uninterrupted Operation
- Less Job-site Congestion
- Flexibility in Outage Planning
- Budget Allocation



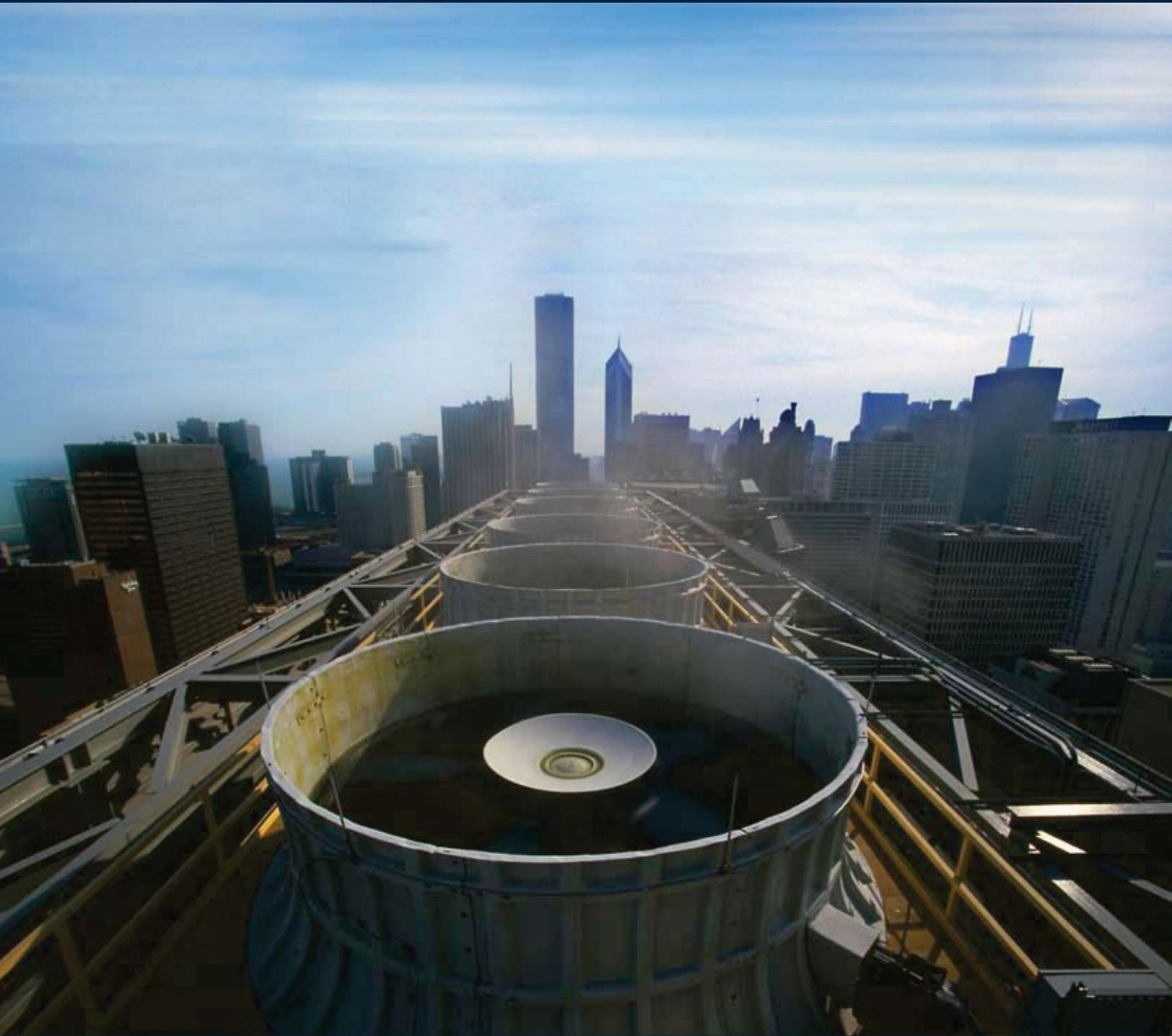
SEAWATER TOWERS

- Design & Engineering Experience
- Utilization of Available Water
- Corrosive Resistant Materials
- Reduced Water Cost



SEISMIC DESIGN

- Site Specific Seismic Designs
- Load Calculation Package & Drawings
- FRP, Wood or Concrete Tower Designs
- 20+ Years in Seismic Design & Analysis



- WATER CONSERVATION
- DISASTER/EMERGENCY REPLACEMENT
- LOW DRIFT
- LOW NOISE
- PLUME ABATEMENT
- ADVANCED TECHNOLOGY

Water Usage Calculator

The calculator is based on 50% relative humidity (for ambient conditions.)
Please consult the factory if you need more detailed information.

Operating Conditions

Tower Water Flow	1000 gpm	227 m ³ /h
Hot Water Temperature	95.00 °F	35.00 °C
Cold Water Temperature	85.00 °F	29.44 °C
Wet-Bulb Temperature	78.00 °F	25.56 °C
Drift Rate	0.005 %	
Concentrations	3	

Water Usage

Evaporation	9.66 gpm	2.19 m ³ /h
Drift	0.05 gpm	0.01 m ³ /h
Blow Down	4.78 gpm	1.09 m ³ /h
Total Usage	14.49 gpm	3.29 m ³ /h



WATER CONSERVATION

- Calculate Water Make-up Requirements
- Allow for Strategic Water Usage
- Options in Drift Eliminator Efficiency
- Online Water Calculating Program



DISASTER/EMERGENCY REPLACEMENT

- Critical Path Parts In Stock
- Experienced Construction Teams
- Crews Available 24/7
- Around the Clock Project Management

COOLING TOWER EVOLUTION

In today's modern world industrial companies are faced with an increase in extreme weather and natural disasters, drought and water conservation issues, and neighborhood requirements for reduced noise and plume abatement. CTD is a frontrunner in all technologies that improve the process of cooling water through evaporative techniques. Whether your concern is noise, water, weather or seismic conditions, CTD offers modern solutions.



LOW DRIFT

- Water Savings
- Reduction in Overall Plant Emissions
- Compliance with Regulatory Standards
- Reduction in Bacterial Dispersion (Legionella)



LOW NOISE

- Regulatory Compliance
- Improved Neighbor Relations
- Meeting Permitting Requirements

OUTTA' SIGHT - PLUME ABATEMENT BY CTD



CTD is the industry leader in the design of plume abated (wet/dry) atmospheric cooling towers. Our plume abated tower designs have been installed in a cross section of industrial applications. The need to install a plume abated cooling tower can range from complying with governmental regulatory requirements to limiting a client's exposure to safety and/or liability risk.

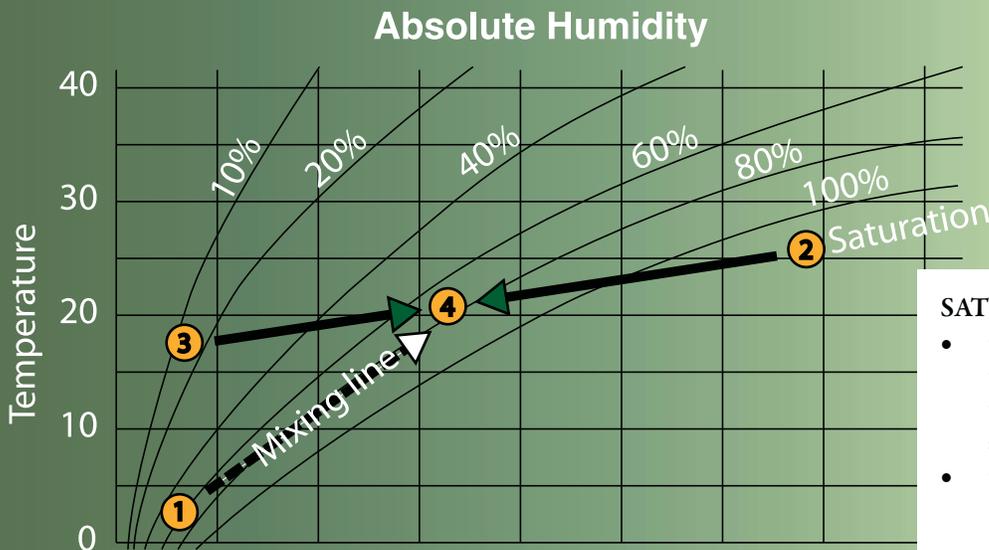
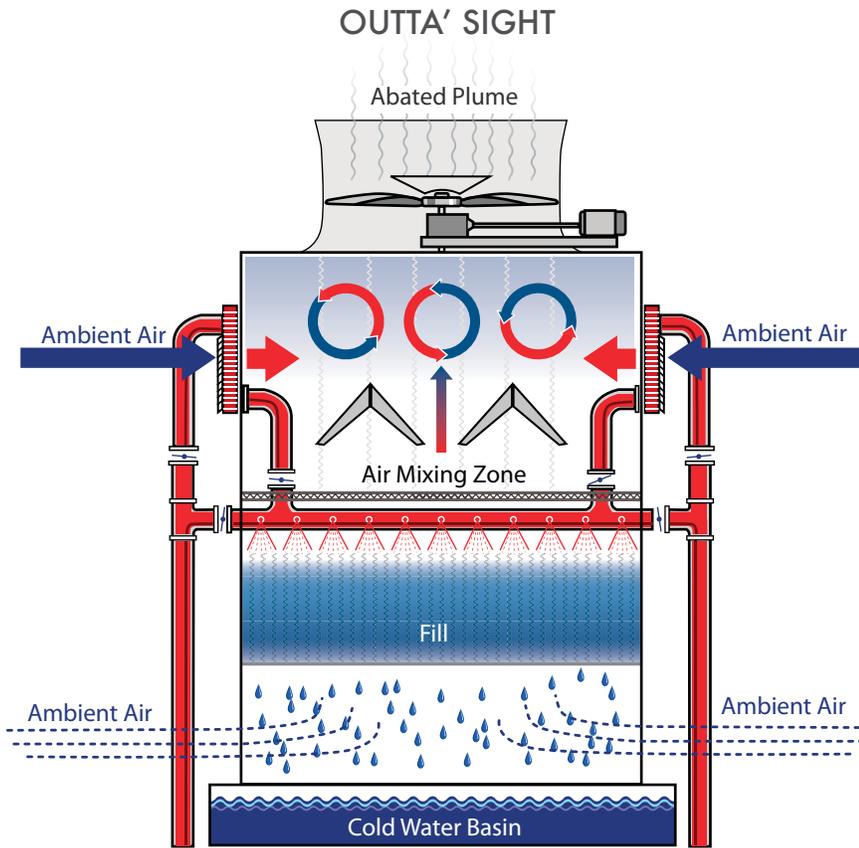
CTD's specialized plume abatement design features a simplified hydraulic system which channels the process water first through the dry section, and second through the wet evaporative water distribution section of the tower. The benefit of this simplified hydraulic system is the ease of operation. It also eliminates the need for multiple valves and additional piping and enables the system to drain completely when not in operation preventing potential damage from freezing. In addition, because of the simplified nature of this system, no vacuum pumps are required to assist with its operation.

CTD's design is versatile in its utilization of multiple row finned tube bundles that are offered in a variety of corrosion resistant metals. These bundles are combined with an enhanced header box feature and an automated or manually activated damper system. Furthermore, CTD's Outta' Sight tower can be designed to utilize steam as the heating source if available.

CTD is one of the few cooling tower companies that have operating, automated, plume abatement systems. These systems are equipped with sensors that sample the ambient conditions and automatically activate when the conditions achieve the pre-determined set points.

Should you have a need for a plume abated cooling tower as a project requirement, please call on the professionals at CTD who can provide you with a proven and reliable design.

PRINCIPALS OF PLUME ABATEMENT



- 1 Inlet
- 2 Exit wet section - supersaturated air - visible plume
- 3 Exit dry section - heated and dry air
- 4 Exit cooling tower - no saturated air

SATURATION CURVE

- Outlet air of the wet section of the cooling tower is mixed with the air heated by the finned tube bundles installed in the walls above the wet section.
- Outlet air characteristics will then be positioned on the line linking points 1 and 2.
- If the line linking points 1 and 2 does not cross the 100% humidity curve, no plume will be visible.

REPAIR AND RECONSTRUCTION SERVICES



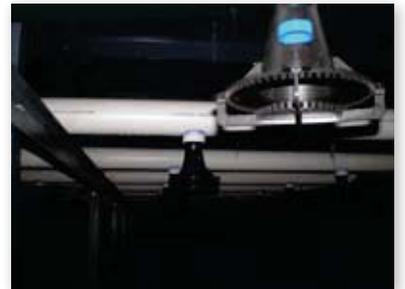
- EVALUATION AND REPAIR
- FAST-TRACK DEMO AND RECONSTRUCTION
- EMERGENCY RESPONSE
- CRITICAL PATH COMPONENTS
- STRUCTURAL/THERMAL UPGRADES

- ADDITIONAL CELLS
- OUTAGE EXPERIENCE
- ONLINE REPAIRS
- INSPECTION SERVICES
- BUDGETING ASSISTANCE

CROSSFLOW (XF)



COUNTERFLOW (CF)



AIR MOVEMENT

- Fan Stack
- Fans
- Gearboxes
- Motors
- Coupling Systems
- Louvers and Casing

Critical Path Components In Stock

DRIFT ELIMINATORS (DE)

- DE Replacement
 - Blade
 - Cellular
- DE Supports

WATER DISTRIBUTION

- Piping
- Replacement Nozzles
- XF Distribution Basin

HEAT TRANSFER

- XF Towers**
- Film Fill
 - Splash Fill
 - V-Bar
 - Gull Wing

- CF Towers**
- Film Fill
 - Splash Fill
 - Ceramic Tile
 - Hybrid Fill

STRUCTURE

- Wood to Wood
- Wood to FRP
- Crossflow to Counterflow Conversion

COOLING TOWER DEPOT PARTS WAREHOUSE



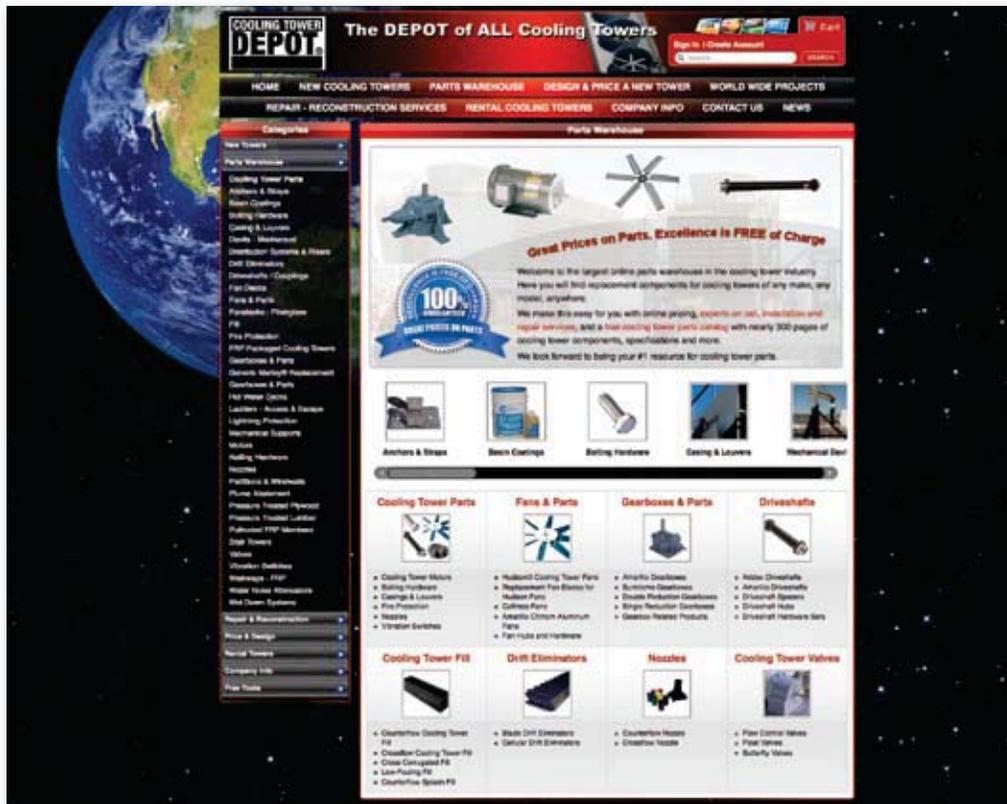
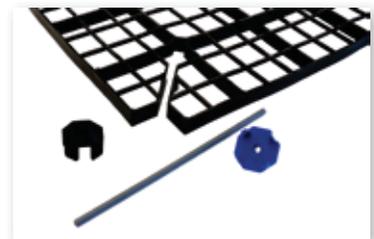
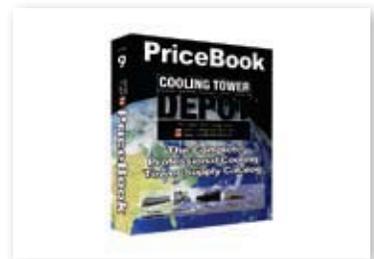
- E-COMMERCE WEBSITE 24/7
- THE PARTS SOURCE FOR ALL COOLING TOWERS
- EMERGENCY IN-STOCK COMPONENTS
- MULTIPLE SHIPPING LOCATIONS
- KNOWLEDGEABLE, PROFESSIONAL STAFF
- COMPREHENSIVE CATALOG OF MATERIALS

YOUR SINGLE SOURCE FOR COOLING TOWER PARTS

CTD operates the largest 24/7 e-commerce warehouse for cooling-tower parts. To professionally serve all of your cooling tower parts needs, our warehouse has a broad selection of replacement parts with unmatched pricing throughout the industry. We provide replacement components for cooling towers of any make, any model, anywhere.

CTD makes it quick and easy to find the parts you need. Simply choose a parts category and we will provide product listings, pricing, and purchasing options, all online. CTD is the largest online procurement platform stocking Amarillo® Gearboxes, driveshafts, fan blades, fan stacks and many other component parts. We make shipping and delivery fast, easy and convenient by stocking replacements parts in multiple locations including Texas, Louisiana, and Colorado.

If at any time you would like to speak with one of our knowledgeable, professional service representatives please give us a call. You can also go on our website and request PRICEBOOK, your Cooling Tower Depot Parts Catalog. Our goal is to provide all of our customers with the information necessary to ensure you get the right parts every time you order.



www.CoolingTowerDepot.com

(720) 746-1234

SAFETY AND PARTNERSHIPS

COOLING TOWER DEPOT SAFETY SUPPORT



COOLING TOWER DEPOT INDUSTRY ASSOCIATES



SAFETY IS OUR PRIORITY

CTD approaches every project with the mindset that safety is first and foremost. We take great strides in protecting our personnel, the environment and the relationships we have with our clients. Every day we train and educate our superintendents, field safety representatives, and on-site personnel in safety procedures used to construct premium cooling towers. We employ several safety advisors both in the office and field. Many of these field representatives are dedicated to a single client and have a sole project focus. In addition, our job sites are clean, safe and well maintained thus enabling us to ensure safety and to mitigate potential risk. By establishing and accomplishing these goals, we provide a service that protects the integrity of our product and the investment of our clients.

COOLING TOWER DEPOT SAFETY SUPPORT:

- Defense Information Systems Agency (DISA)
- Transportation Worker Identification Credential (TWIC™)
- ISNetworld (ISN)
- Pacific Industrial Contractor Screening (PICS)

CREDIBILITY

CTD is a known leader in our industry. In addition to being a long-standing and contributing member of our governing organization, Cooling Technology Institute (CTI), we also have active memberships with many associated industrial organizations. Companywide we have over five centuries of accumulated experience and CTD has written countless articles and white papers on the advancements and benefits of evaporative cooling towers.

CTD attends trade shows and conferences regularly both exhibiting and attending educational sessions for every discipline we work in. Over the years we have participated in hundreds of conferences worldwide. This level of involvement with, and contribution to, the industrial community allows us to share our expertise, improve our skills, and increase our understanding of cooling processes. Our commitment to being the best evaporative cooling tower company to serve our clients stems from continued presence and leadership in the industries we make cool.

COOLING TOWER DEPOT INDUSTRY ASSOCIATES:

- Cooling Technology Institute (CTI)
- BIC Alliance
- National Petrochemical and Refiners Association (NPRA)
- Association for Iron and Steel Technology (AIST)
- American Coalition for Ethanol (ACE)
- Academic Physical Plant Association (APPA)

INDUSTRIES WE MAKE COOL

INDUSTRIAL COOLING SOLUTIONS

CTD takes pride in building custom cooling towers for the industries we serve. We have built a multitude of towers for each of these industries and believe that not all cooling towers are created equal. We understand the nuances of the industries we work with and adapt our tower technology to fit each application. In addition, CTD has built hundreds of cooling towers worldwide. We use this knowledge and experience to quickly and competently design and price the right cooling tower for your industry and exact application.



CTD DELIVERS COOLING TOWERS

CTD dedicates all of our resources to designing and building premier field-erected cooling towers for industrial use. Our depth and experience give us the ability to create any type of counterflow or crossflow cooling tower ranging from Low Noise, Plume Abated, HVAC systems to Double Wall, high thermal capacity towers. Our in-house expertise and committed team of professionals will carefully evaluate your specific needs to deliver the right cooling tower for your facility every time. When working with CTD, you will experience the highest level of client service resulting in a premium quality, efficient cooling tower that will provide outstanding service for years to come. When it is time to choose a cooling tower company, go to the **DEPOT** of all cooling towers, Cooling Tower Depot.

COOLING TOWER DEPOT SPECIALIZES IN COOLING TOWERS FOR:

POWER

- Coal/Natural Gas-Fired
- Geothermal
- Nuclear
- Biomass
- Concentrated Solar
- Solid Waste

PROCESS

- Petrochemical
- Chemical
- Biorefining
- Gas Processing

REFINING

- Gasoline
- Ethanol
- Natural Gas
- Oil

MANUFACTURING

- Food
- Beverage
- Pulp/Paper
- Steel/Metals

INDUSTRIAL HVAC

- Commercial Property
- Government/Municipal
- Airports

COOLING TOWER DEPOT[®] CAPABILITIES

Cooling Tower Depot
Corporate Headquarters
651 Corporate Circle, Suite 206
Golden, CO 80401
(720) 746-1234



Depot Texas Office
(281) 542-1234

Depot Kansas Office
(913) 438-1234

Depot Northeast Office
(508) 756-1234

Depot Southeast Office
(704) 483-1234

Depot Louisiana Office
(985) 661-1234

Depot California Office
(858) 483-1234

Depot Illinois Office
(217) 423-1234

Depot Canada Office
(888) 946-0009

www.CoolingTowerDepot.com

COOLING TOWER DEPOT DISTRIBUTION CENTERS

HOUSTON, TEXAS



SAN ANTONIO, TEXAS



BATON ROUGE, LOUISIANA



GOLDEN, COLORADO

