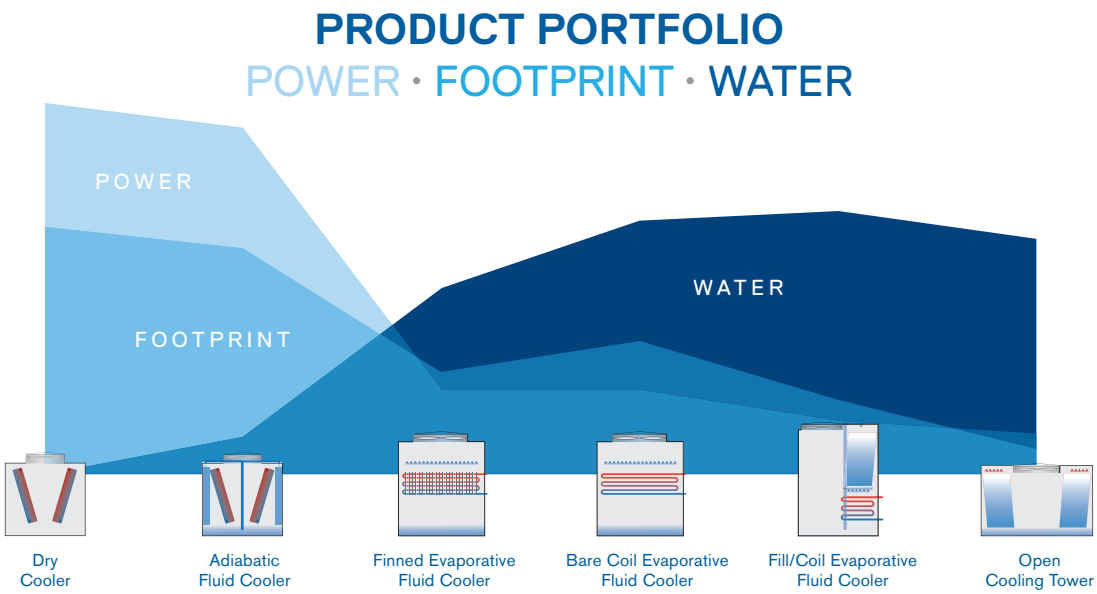
# MARLEY® OlympusMAX™

## The Peak of Fluid Cooler Performance

MARLEY®

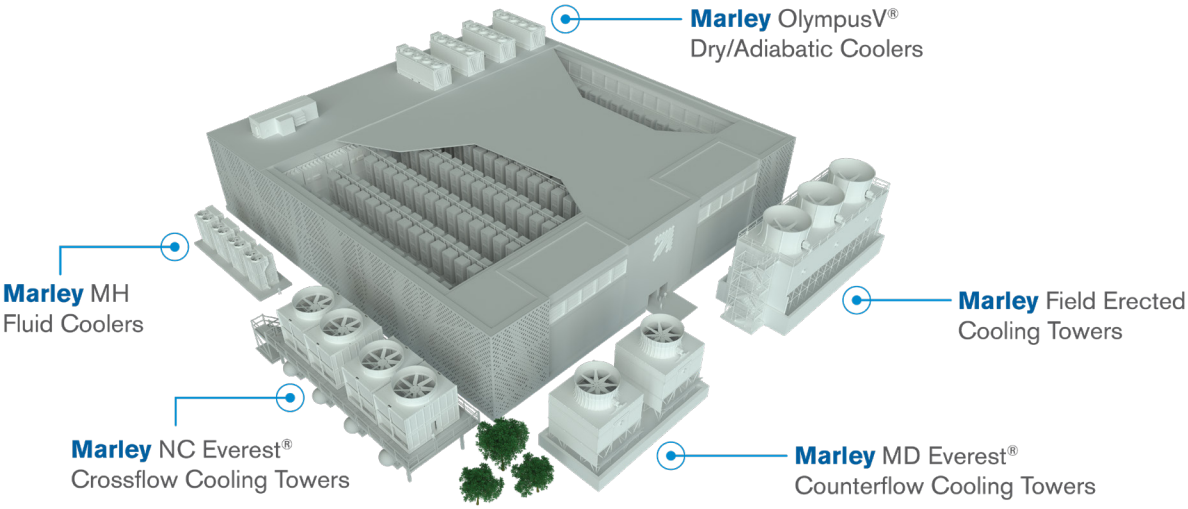
## Balancing Energy and Water

No single heat rejection solution is right for all applications. Selecting the right product involves trade-offs between energy consumption, water usage, footprint and other site-specific concerns. Our experienced Marley representatives can help you select the optimal product for your application, whether you're building from the ground up or scaling up your cooling needs.




## Full Range of Product Solutions

With a full portfolio of options, Marley dry fluid coolers, adiabatic fluid coolers, evaporative fluid coolers and evaporative cooling towers will make your selection process easier with single-supplier solutions for your mission-critical facilities.



## The Peak of Fluid Cooler Performance

### Flexible Design Options
Offered as both dry and adiabatic fluid cooler configurations, with post-installation, bolt-on adiabatic kit option available.

### Simplified Installation
Controls are factory assembled with electrical station access platform fully assembled and a single-point wiring connection to the unit.

### Improved Efficiency
Unique recirculating water system minimizes water use, improves adiabatic efficiency, limits scaling and helps extend pad life.

### Optimized Energy Usage
User-friendly control system included to regulate water/energy usage, with option to convert dry units to adiabatic in the field.

### Built for Uptime
Quality materials, robust construction methods and proven mechanical equipment designed for lasting performance and reduced downtime.

### High Density
Designed to maximize dry cooling capacity for available footprint.

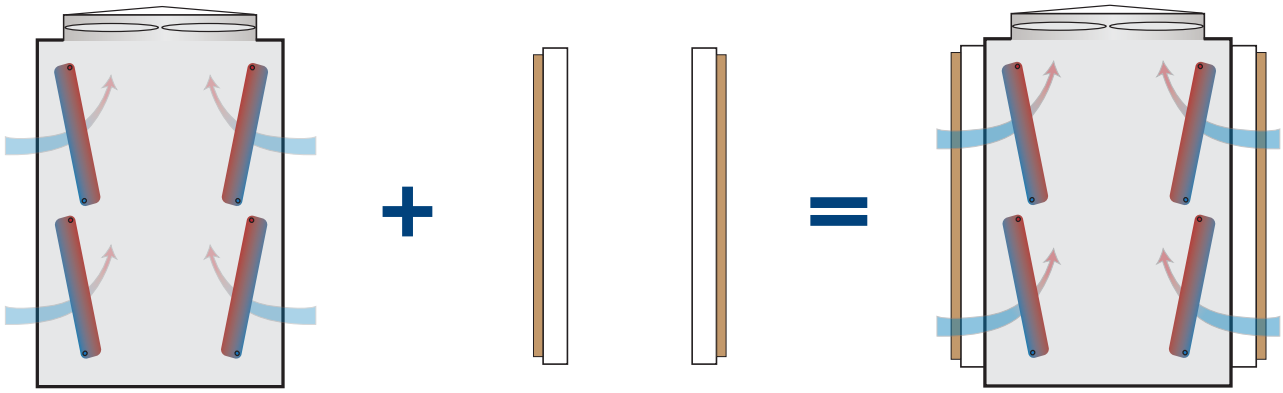
# Mission-Critical Design

- Extended heat rejection capabilities over 131F (55C)
- High-density design maximizes usable space–available in 120, 160, 200 and 240hp versions
- Safer, easier access to all potential failure points, including interior mechanicals and control panels
- Unique upgrade option allows your facility to expand units from dry to adiabatic with in-field conversion package
- Integrated redundancy on mission-critical components like fans and VFDs

| Design Element | Detail |
|---|---|
| Unit Sizes | Double Stacked, Modular 4 Fan |
| Air Flow Type | Induced Draft, Vertical Discharge |
| Fans | High-efficiency Low Sound or Ultra Quiet Gear-driven |
| Drive System | Marley Geareducer® gear drive |
| Motors | Premium Efficiency TEFC |
| Coil Construction | Stainless steel or copper tube and aluminum or coated aluminum fin |
| Unit Construction | Galvanized steel with stainless steel wet areas; all stainless steel option |
| Adiabatic Design | Pad/Media – Recirculating (adiabatic units only) |
| Water System | Integral Recirculating Pump (adiabatic units only) |

# Bolt-On Flexibility

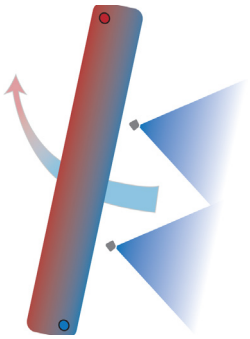
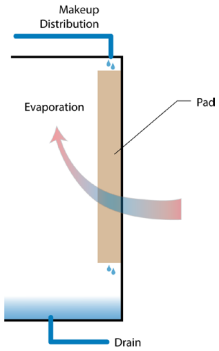
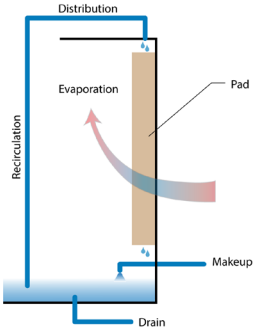
The innovative construction of the Marley OlympusMAX allows for the recirculating adiabatic pre-cooling system to be installed in the field, providing more flexibility on cooling capacity. This option allows for applications initially specified as dry to be converted to adiabatic later by using an easy-to-install bolt-on kit as cooling demand increases.



**Dry Cooler** + **Bolt-On Adiabatic Pad Assembly** = **Adiabatic Fluid Cooler**

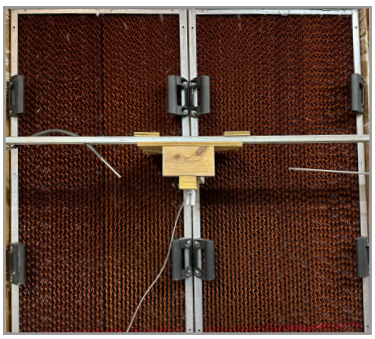
# Optimized Adiabatic Design

The OlympusMAX recirculating design collects and reuses water in the adiabatic system, decoupling water distribution from water usage. The design allows users to dial in water capacity by cell to further optimize usage.

| | Spray | Once-through Pad | Recirculating Pad |
|---|---|---|---|
| |  |  |  |
| Strengths | • Simple design<br>• Carryover on coil improves performance | • No recirculation pumps<br>• No water management | • Reduced water use<br>• Higher flow rate across coils<br>• More adiabatic pre-cooling |
| Weaknesses | • Lowest saturation efficiency<br>• Evaporation of carryover water leaves minerals on coil | • High amount of wasted water (high flow) OR reduced capacity (low flow) | • Higher weight<br>• More water system components |

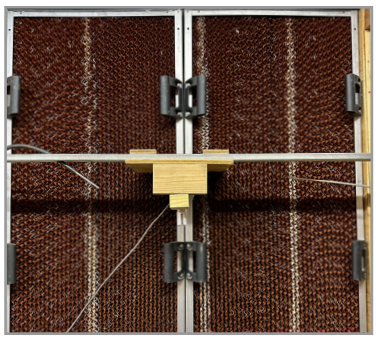
# Efficient Water Delivery

Higher flow rates typically associated with recirculation systems help limit dry spots and ensure uniform wetting of the pad, maximizing efficiency and lengthening pad life. Recirculating systems also limit total water usage; once-through or spray systems typically run lower flow rates or risk excessive water use.



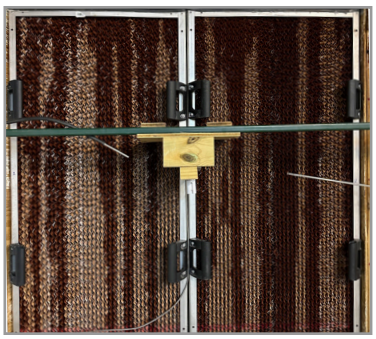
### Recirculating, higher water delivery rate

Higher delivery rate extends pad life



### Recirculating, lower water delivery rate

Scale deposits form faster, hurts efficiency and lessens pad life

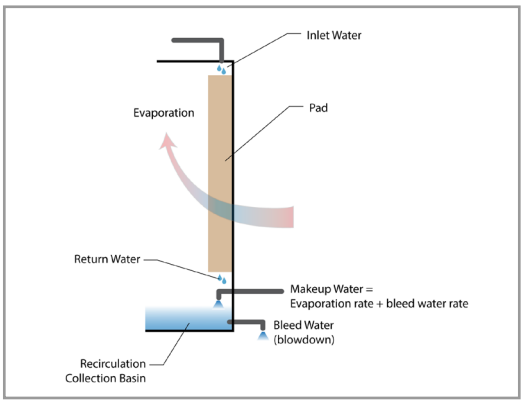


### Once-through, very low water delivery rate

Incomplete wetting hurts efficiency – more water needed, more fan energy

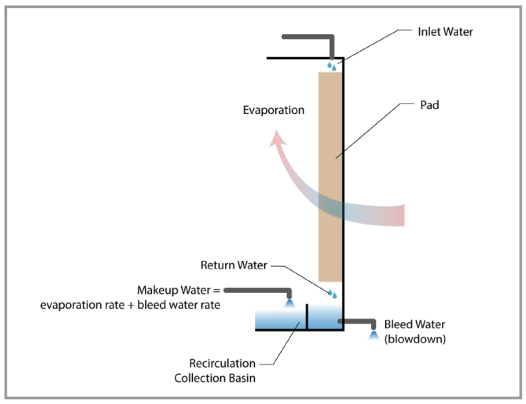
# Unique Recirculation System Design – *Patent Pending*

Traditional designs pull from a mixture of blowdown and makeup water, but Marley's adiabatic design segregates the two streams to minimize wasteful discharge of cleaner water and ensure the most concentrated stream is rejected.




**Traditional Design**
(Blowdown from Common Sump)

Blowdown is taken from diluted water mixture in basin

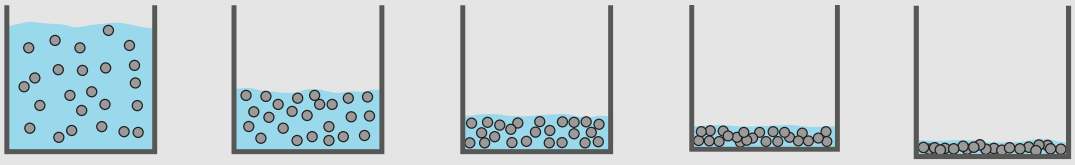



**Marley Design**
(Blowdown from Pad)

Blowdown is taken from concentrated water off the pad

# How do Cycles of Concentration Work?

Cycles of Concentration (COC) measure how efficiently water is used in an evaporative cooling system. Higher cycles mean less water waste and lower costs - but require proper water treatment to avoid scale and corrosion.



**Makeup** | **2 COC** | **4 COC** | **6 COC** | **10 COC**

**M = E + B**

Makeup = Evaporation + Blowdown

**B = E / (COC-1)**

Blowdown = Evaporation / (Cycles of Concentration - 1)

**COC = M / B**

Cycles of Concentration = Makeup / Blowdown

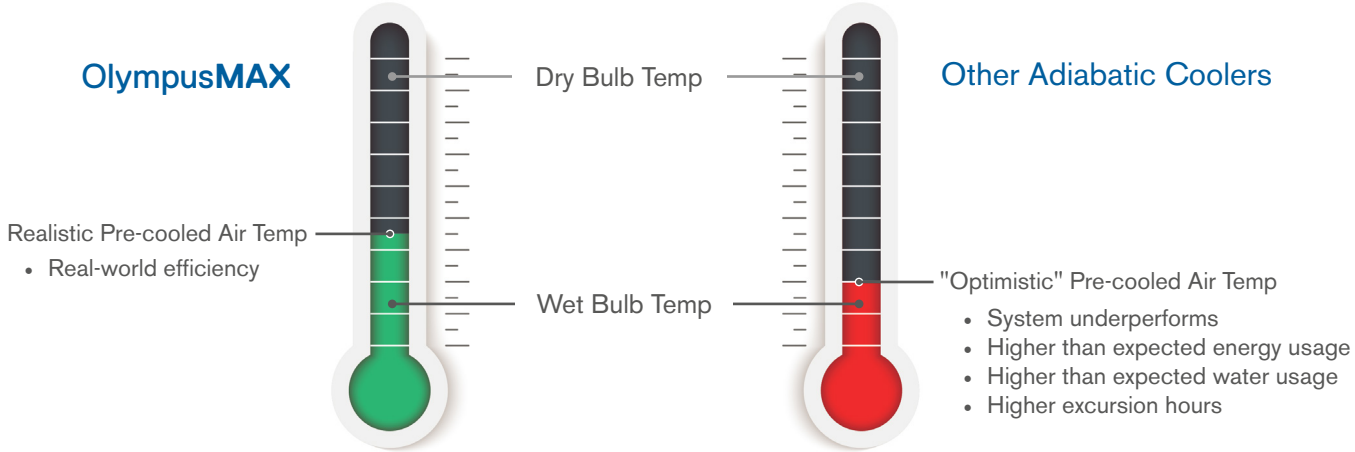
# Trusted Performance

**Real Efficiency. Real Results.**

Unlike many adiabatic systems that assume ideal conditions, the Marley OlympusMAX Fluid Cooler is engineered and rated using real-world saturation efficiencies. This ensures:

- Reliable performance ratings
- Accurate energy and water consumption estimates
- Reduced frequency and severity of temperature excursions

**Engineers and owners need data they can trust** – especially when specifying mission-critical cooling systems.



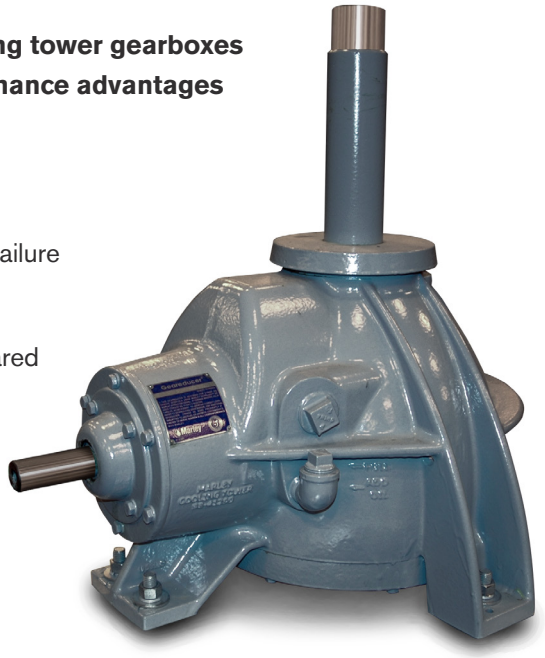

**Saturation Efficiency** is a measure of how effectively the air is precooled by the adiabatic system.

- Determines pre-cooled air temperature for unit sizing
- Realistic values (6" pad depth) typically range from ~60% to ~75%
- Varies with pad depth, pad design, air velocity and water rate

$$\% = \frac{\text{(Dry Bulb – Pre-cooled Dry Bulb)}}{\text{(Dry Bulb – Wet Bulb)}} * 100$$

# Reliable Gear Drives and Motors

**The Marley Geareducer® has set the standard for excellence in cooling tower gearboxes since introduced in 1935. Marley gear drives offer significant maintenance advantages and proven reliability through decades of performance.**



### ENGINEERED RELIABILITY & SIMPLIFIED MAINTENANCE

- Warranted for a full five (5) years, regardless of service hours, against failure from oil degradation
- Gear sets are AGMA Quality Class 9 to 11, increasing gear life compared to lower quality class gear sets
- Heavy-duty gray cast iron castings with epoxy coatings ensure long life in a humid cooling tower environment
- Five-year oil change interval with Marley Gearlube can save thousands in maintenance costs compared to belt-driven systems
- Options available for oil level monitoring, enhanced corrosion protection, premium seals and more

# Proven & Durable Fan Blades

Marley OlympusMAX offers two optimized fan options to meet customer requirements for sound, performance and cost.

### Low-Sound Fan

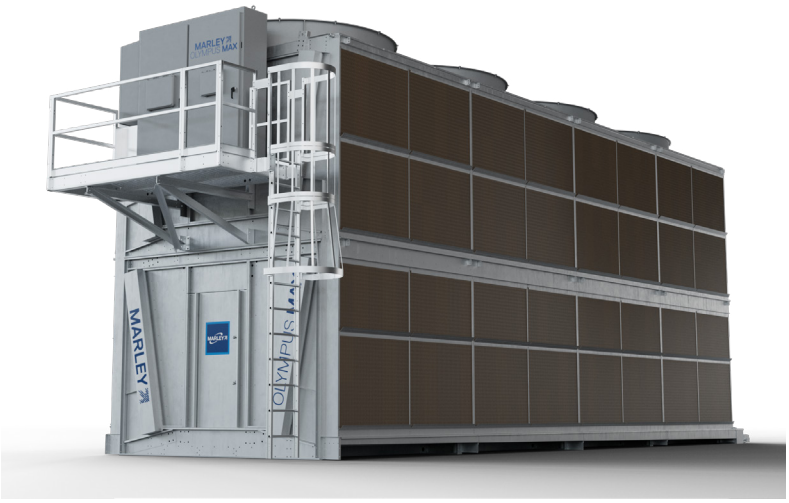
The standard low-sound, high-efficiency X7 axial fan has adjustable-pitch fan blades to permit maximum utilization of rated horsepower – allowing field adjustments to optimize performance.

### Ultra Quiet Fan

The Ultra Quiet Fan uses a wide-chord blade design well suited for low sound operation, delivering superior air flow and pressure capability at reduced speed. Blades can be rotated easily to achieve necessary pitch for precise utilization of fan horsepower.

NOTE: The Ultra Quiet Fan has an extended fan cylinder and fan blade which must be installed in the field.

OlympusMAX Dry Fluid Cooler




OlympusMAX Adiabatic Fluid Cooler

## Ease of Installation

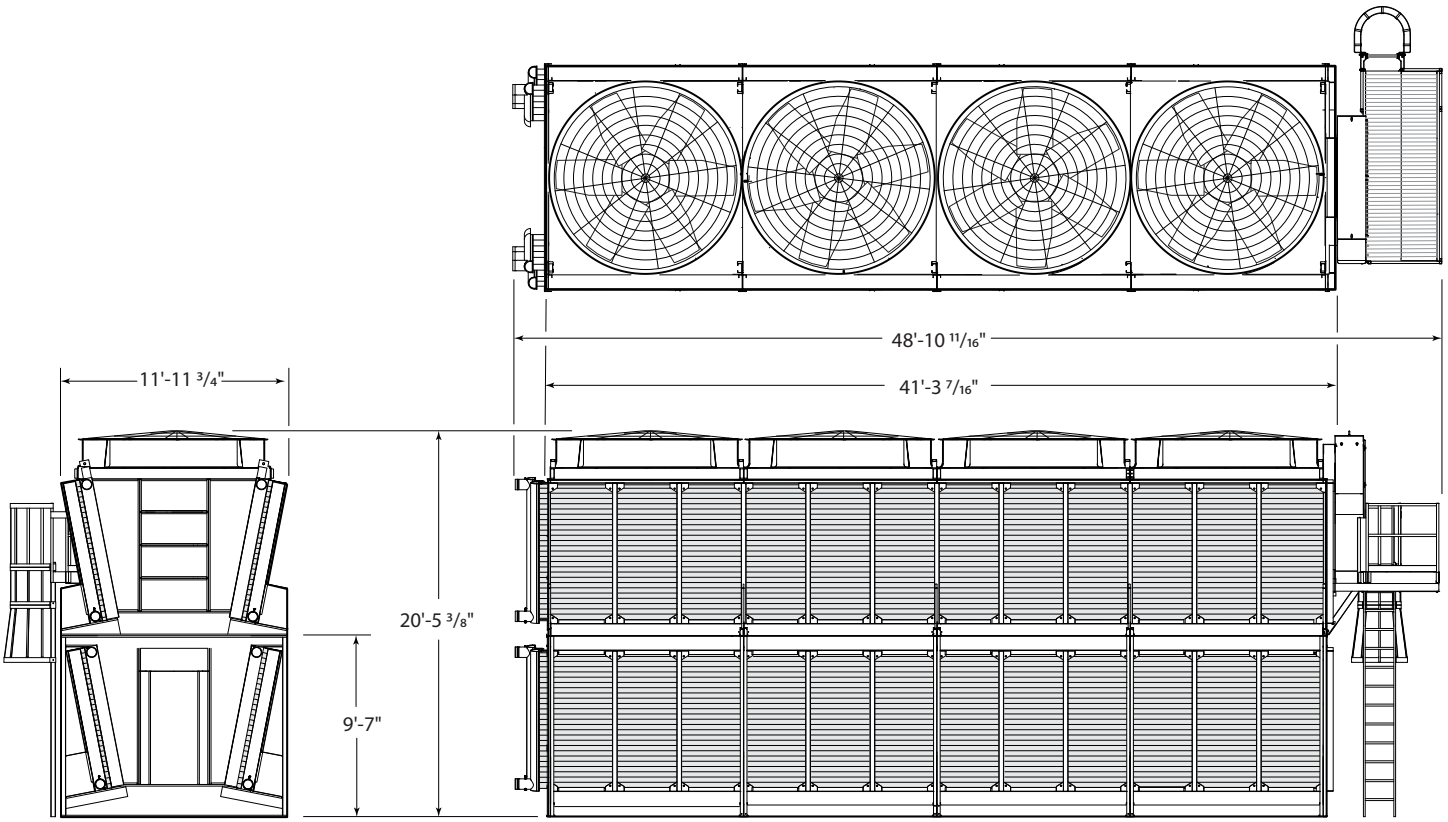
- Single-point power and wiring connections between top and bottom module
- Electrical panel access platform ships assembled and installed on the unit as standard
- VFD and control panel ship installed on unit with Programmable Logic PLC controls
- Off-shelf components (MEP) for ease of future replacement retrofits/upgrades

## Safer, Easier Service and Access

- Full-size access doors and internal walkways making regular inspections easier
- Safe and durable platform for easy access to control panels
- Geareducer motors facilitate reliable long-term operation

# Product Data – Dry

**Marley® OlympusMAX™ Dry Fluid Cooler**

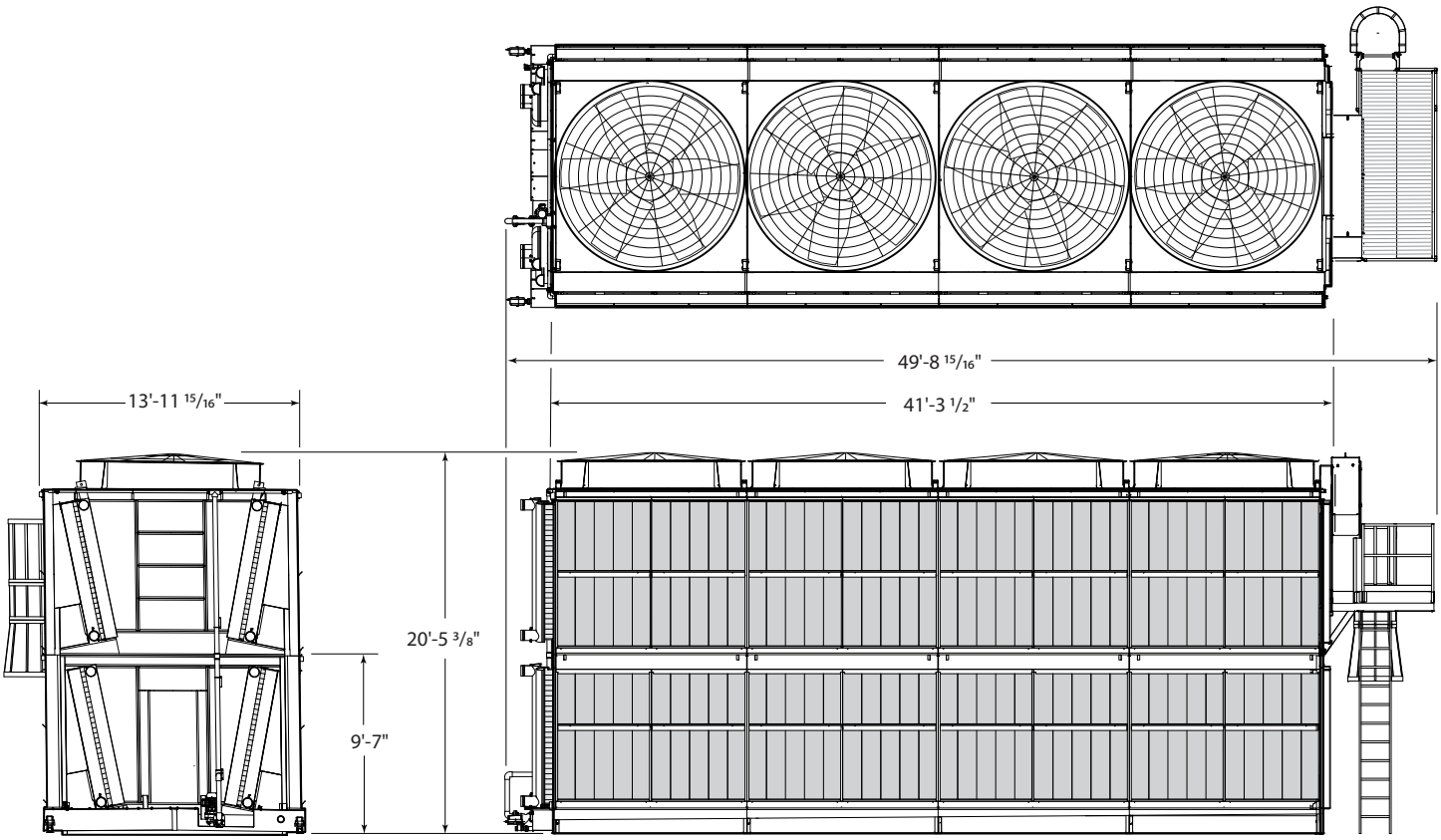



| Unit Model (note 2) | Fan Qty | Heat Rejection (note 3) | Fan Motor | Airflow Rate | Shipping Weight | Heaviest Lift | Design Operating Weight | Coil Volume |
|---|---|---|---|---|---|---|---|---|
| DWSA4S | 4 | 7,984 MBH | 30 hp (22.4 kW) | 572,900 CFM | 58,900 lb | 34,700 lb | 66,200 lb | 882 gal |
| DWSA4T | | 8,494 MBH | 40 hp (29.9 kW) | 617,700 CFM | | | | |
| DWSA4U | | 9,038 MBH | 50 hp (37.3 kW) | 665,400 CFM | | | | |
| DWSA4V | | 9,553 MBH | 60 hp (44.8 kW) | 710,900 CFM | | | | |

NOTE
1. Use this bulletin for preliminary layouts only. Obtain current drawings from your Marley sales representative.
2. Additional configurations available beyond those shown. Consult CoolSpec™ Product Selector for selection details.
3. Heat Rejection while operating dry at 115F-105F-95F. This is the CTI standard rating condition for dry coolers.

# Product Data – Adiabatic

**Marley® OlympusMAX™ Adiabatic Fluid Cooler**




| Unit Model (note 2) | Fan Qty | Heat Rejection (note 3) | Fan Motor | Airflow Rate | Pump Motor | Shipping Weight | Heaviest Lift | Design Operating Weight | Coil Volume |
|---|---|---|---|---|---|---|---|---|---|
| VWSA4S | 4 | 9,690 MBH | 30 hp (22.4 kW) | 553,600 CFM | 1.5 hp | 66,200 lb | 38,000 lb | 76,100 lb | 882 gal |
| VWSA4T | | 10,117 MBH | 40 hp (29.9 kW) | 598,200 CFM | | | | | |
| VWSA4U | | 10,543 MBH | 50 hp (37.3 kW) | 644,000 CFM | | | | | |
| VWSA4V | | 10,900 MBH | 60 hp (44.8 kW) | 687,000 CFM | | | | | |

NOTE
1. Use this bulletin for preliminary layouts only. Obtain current drawings from your Marley sales representative.
2. Additional configurations available beyond those shown. Consult CoolSpec™ Product Selector for selection details.
3. Heat Rejection while operating at 105F-95F-95F-75F. This is the draft CTI standard rating condition for adiabatic coolers.

**Learn More** Scan the QR code or visit
spxcooling.com/applications/data-centers/

**SPX COOLING TECH, LLC**
7401 WEST 129 STREET
OVERLAND PARK, KS 66213 USA
913 664 7400 | spxcooling@spx.com
spxcooling.com

OLYMPUSMAX-26 | ISSUED 1/2026
©2025-2026 SPX COOLING TECH, LLC | ALL RIGHTS RESERVED
In the interest of technological progress, all products are subject to design and/or material change without notice.

MARLEY
An SPX Technologies Brand