# Marley NCWD INSIGHT

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## Overview

NCWD is an innovative, patented factory assembled hybrid cooling tower designed specifically for plume reduction.

## Primary Benefits

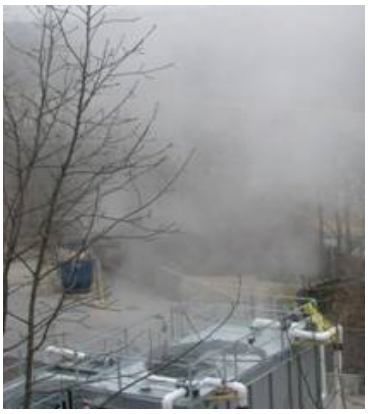
- Designed to reduce 20-30% more visible plume versus series path design, based on a percentage of year with plume and ASHRAE weather data
- Unique design with high single-cell capacity, allows for the same tonnage as series path cooling towers, but with up to 40% less operating weight and up to 44% lower power consumption
- Factory assembled for easy configuration and installation

## Benefit Detail

Better Plume Reduction:

- Designed to abate plume at lower temperatures with the same amount of humidity
- Designed for one-third to one-fifth the visible plume versus series path designs based on a percentage of year with plume and ASHRAE weather data
- Up to 20% water savings when running coil section versus standard cooling tower

*more*

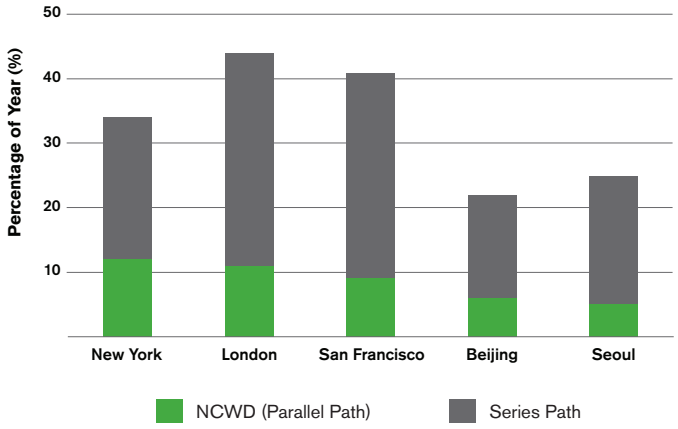


*Without Plume Abatement*

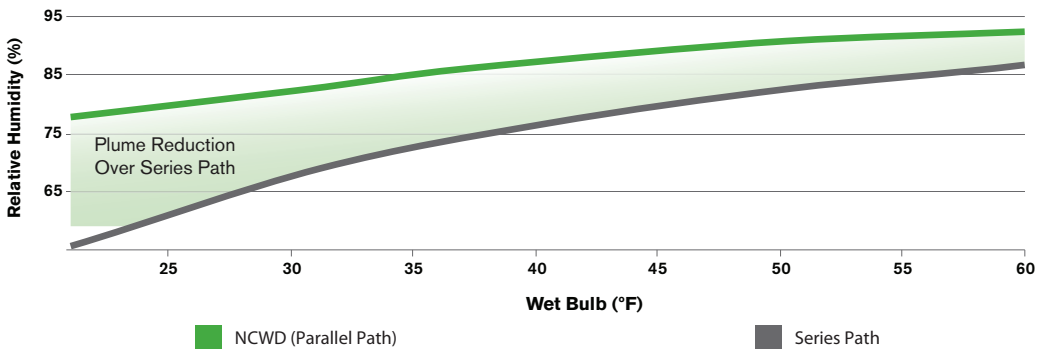
*With Plume Abatement*

Conditions: Wet Bulb 35.6°F — RH 81.0% — Dry Bulb 37.9°F
Range 17.8°F — Cold Water 72.1°F — Tangency 98.9%

**Percentage of Year with Visible Plume**




**Fogging Occurance**



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## Benefit Detail

Unique Design Advantages:

- Lower fan power consumption due to lower static pressure saving up to 60 hp per cell
- Recirculation pump is not required saving up to 7.5 hp per cell
- Up to 60% lower operating weight, saving structural supporting steel costs
- Up to 59% smaller footprint, reducing structural steel cost and site space requirements
- No auxiliary heat source required (e.g. steam boiler or hot water loop)

Factory Assembled:

- Easier quoting, lower lead-times, lower site installation costs typical of factory assembled versus field erected towers

## Capacity Range

393 to 1033 tons per cell at 95°/85°/78°F

1180 – 3100 gpm (268 – 704 $m^3$/hr)

## Features / Options

- Geardrive
- Integral Louvers and Eliminators
- Non-Corrosive Copper or Stainless Steel Coil
- Low Sound Capabilities
- Plenum Walkways
- Access Platforms
- Motor Outside Airstream
- Single Inlet Piping

| | Parallel Path (Single-Cell NCWD) | Series Path* (Three Cells) |
|---|---|---|
| **Cooling Tons** | 849 | 849 |
| **Fan** (hp / kW) | 75 / 56 | 135 / 100 |
| **Recirculation Pump** (hp / kW) | Not Required | 22.5 / 16.5 |
| **Operating Weight** (lb / kg) | 45,105 / 20,460 | 114,000 / 51,710 |
| **Footprint** (sq ft / $m^2$) | 270 / 25 | 648 / 60 |

**Source: B.A.C.® HXV published data*

## Key Contacts

Engineering / Technical Questions: fap@spx.com

## Common Applications

- Airports
- Roadway safety
- Visual pollution concerns
- Urban environments
- Environmentally conscious building
- Low water availability

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