**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

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**Percentage of Year with Visible Plume**

<table>
<thead>
<tr>
<th>City</th>
<th>Percentage of Year (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>20</td>
</tr>
<tr>
<td>London</td>
<td>30</td>
</tr>
<tr>
<td>San Francisco</td>
<td>40</td>
</tr>
<tr>
<td>Beijing</td>
<td>50</td>
</tr>
<tr>
<td>Seoul</td>
<td>60</td>
</tr>
</tbody>
</table>

**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%

**Fogging Occurrence**

- **Plume Reduction Over Series Path**

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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 m³/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 / m²)** | 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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