Water saving benefits of the Wet Surface Air Cooler (WSAC®)

Niagara Wet Surface Air Coolers (WSAC®) application study

The Alfa Laval Niagara Wet Surface Air Cooler (WSAC®) provides many water saving benefits.

Run higher cycles of concentration

- Purchase less water
- Dispose/treat less water

Use poor quality water

- Reuse plant water
- Brackish water, seawater
- Agricultural runoff
- FGD water

Co-current spray system design

- Lower discharge height
- Lower PM10

Pump less water

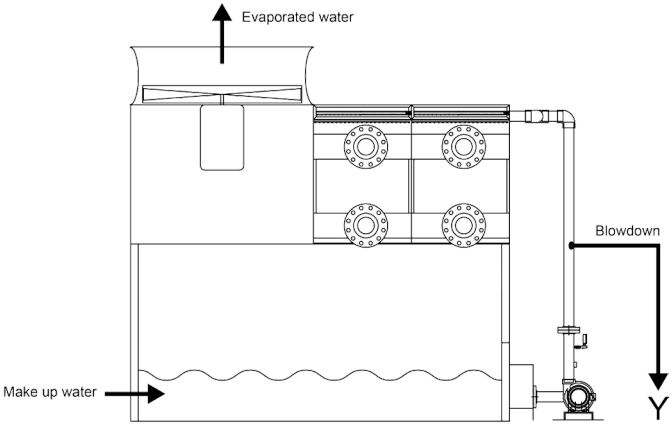
- Lower horsepower
- Reduced installation costs
- More available power for sale
- Lower carbon footprint

Evaporate blowdown

- Smaller evaporation ponds
- Less ZLD system capacity
- Cost savings—less expensive to own and operate

NIAGARA
Wet Surface Air Coolers

Water usage diagram



Cycles of concentration in a WSAC

Evaporation (GPM) = Heat Load (Btu/hr)/~500000 (same as CT)

Blowdown = Evaporation / Cycles –1

Total makeup = Evaporation + Blowdown

Makeup	Evaporation	Blowdown	Cycles
400	100	300	1.33
200	100	100	2
125	100	25	5
111	100	11	10

For more information about Niagara WSAC applications, please contact our factory office.

What is a WSAC?

Alfa Laval Niagara Wet Surface Air Coolers (WSAC®) are efficient closed-loop, evaporative cooling systems designed for the power, process, wastewater, natural gas and petrochemical industries.

These fluid cooling and vapor condensing systems are optimized for industrial applications where rugged designs, and cost-effective, efficient closed-loop cooling and condensing duties are required.

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