

BROCHURE

PreCool

Save up to a third on the running costs of your cooling system

 **World leader in adiabatic cooling**



Upgrade your system with PreCool

PreCooll at a glance

Advantages

Increases system reliability

Increases cooling capacity

Decreases operating costs

Decreases chiller maintenance

Peak power reduction

Easy access to condenser

Noise reduction

Applications

Supermarkets

Datacenters

Food industry

Process industry

Offices

The benefits of adiabatic pre-cooling



Up to **40%**
energy savings



Up to **20%** more
cooling capacity



Up to **30%** peak
power reduction



Up to **25 °C (45 °F)**
pre-cooling



Cutting costs by using the power of nature

NATURAL TECHNOLOGY PreCooll relies on the extremely powerful natural principle of water evaporation. Encapsulated by super-efficient patented aluminium based adiabatic cooling pads (Oxyvap®), your industrial cooling system can continue to operate in its highest efficiency range, even during the hottest days. Oxycom has taken natural pre-cooling to a new level, delivering a wet-bulb efficiency of 90% to 93% according to Australian Standards.

BENEFICIAL MICROCLIMATE PreCooll creates a cool microclimate around your industrial cooling system. Adiabatic cooling of the ambient air before it enters the system is the fastest way to lower energy consumption. Ensuring a steady supply of cold air to your condenser not only boosts efficiency, it also contributes to longer equipment lifetime and lower maintenance costs.

OXYVAP® BOOSTS PERFORMANCE Made of inorganic materials with the lowest possible air resistance, Oxyvap® guarantees safe operations and maximum savings for many years. Oxyvap® can lower the inlet air temperature by as much as 25 °C (45 °F) in warm climates. This brings 40% lower energy use, 20% more cooling capacity, and 30% peak power reductions well within reach.

EVAPORATION MAKES SENSE Evaporating 1 m³ (264 gal) of water delivers a stunning 695 kWh of cooling power, while traditional AC uses 1 m³ (264 gal) of water and large amounts of fossil fuel to produce only 212 kWh of cooling power. Any life-cycle analysis will show PreCooll to use less water than cooling systems without adiabatic pre-cooling, when powered with power generated by fossil fuels.

No aerosols, no Legionella

PreCooll is based on the Oxyvap[®], a contact humidifier. Contact humidifiers have the advantage that they do not introduce fine droplets or aerosols into an airstream, unlike spray humidifiers. This is important, as people can only contract legionnaires' disease or Pontiac fever when they inhale small aerosols with a size of 10µm or less, that contain the bacteria. This makes PreCooll also suitable for use in public places such as schools, shopping malls, and near air intakes of AHU's. The Oxyvap[®] is tested and certified according to the German VDI 6022 guidelines and can optionally be equipped with UV-C water treatment.

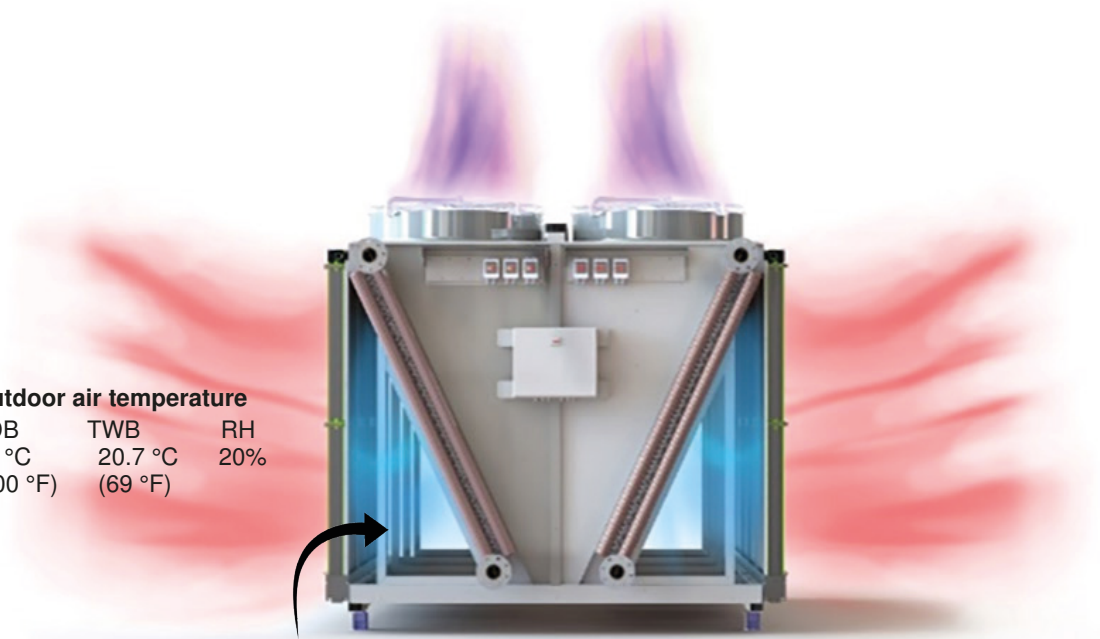


Guaranteed performance in all weather conditions

The performance of PreCoolll is not affected by (turbulent) winds that often blow around condensers on rooftops. The sun doesn't affect the chiller either as PreCoolll creates a completely shaded environment around the machine. This creates a cool microclimate and reduces heat stress on components.

Outdoor air temperature

TDB	TWB	RH
38 °C (100 °F)	20.7 °C (69 °F)	20%



Air temperature before condenser

TDB
22.4 °C (72 °F)



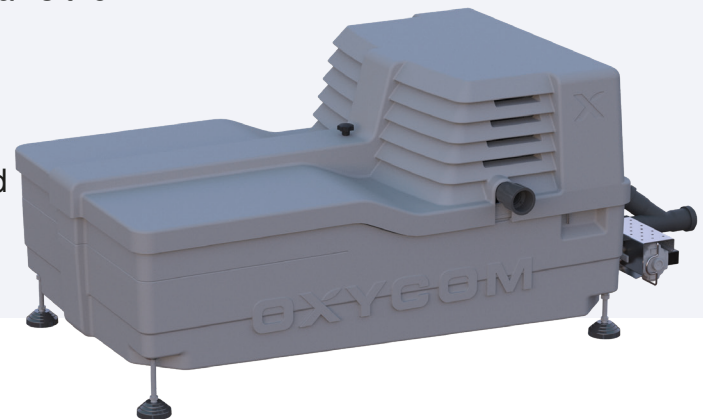
PreCooll - Datacenter

Intelligent AquaMizer pumping station ensures maximum efficiency

SMART CONTROLS Key to PreCooll's great performance and longevity is the intelligent AquaMizer pumping station. Maximum water efficiency is achieved with state-of-the-art sensors and control algorithms that monitor the ambient conditions and determine the operation modes, ensuring the PreCooll system is active only when necessary. You can customize operational parameters and connect optional monitoring devices.

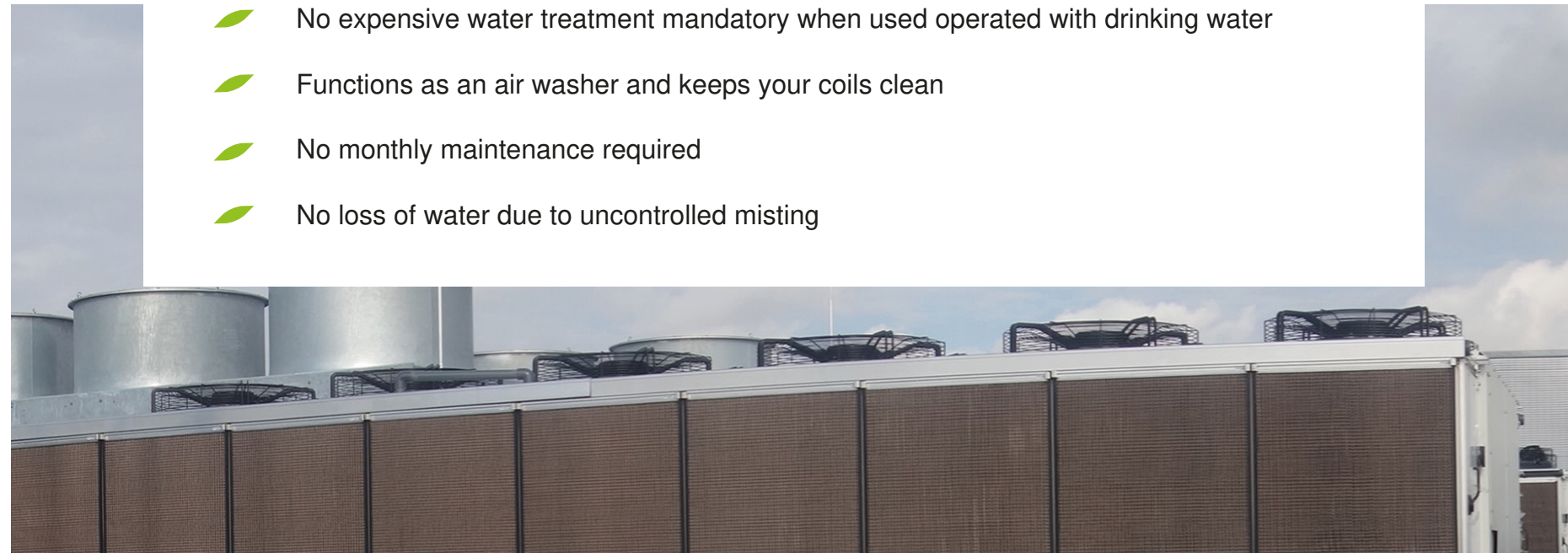
SAFE OPERATION The AquaMizer pumping stations are built to last and ensure reliable operation for many years. The fully automated water management system continuously monitors water quality, refreshes the water to ensure ongoing maximum performance, and fully drains the system after operation.

CONNECTED Oxycom continuously improves products and services with the help of data collection when the system is connected. Real-time performance monitoring is optional and allows for further substantial cost reductions through timely service and predictive maintenance.



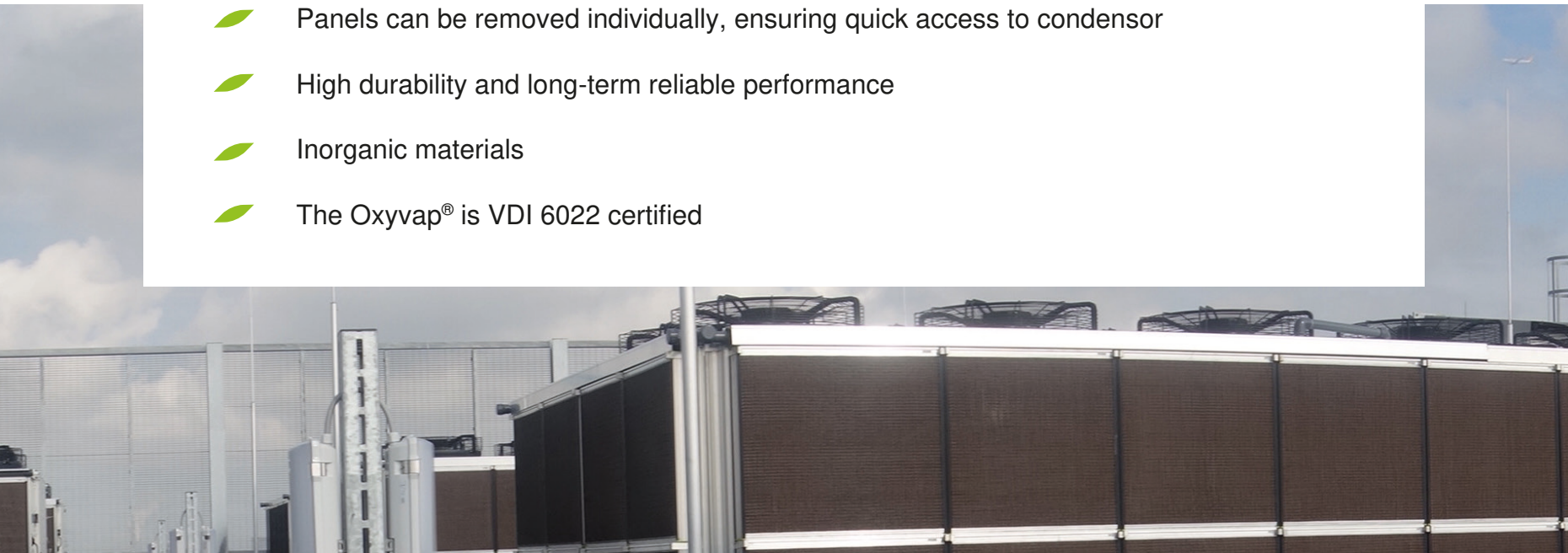
PreCooll compared to spray humidifiers

- No risk of corrosion and clogging of condensor coils
- No risk of legionella contamination because there are no aerosols in the air
- Natural moisture regulation: no oversaturation or under-humidification
- No expensive water treatment mandatory when used operated with drinking water
- Functions as an air washer and keeps your coils clean
- No monthly maintenance required
- No loss of water due to uncontrolled misting



PreCooll compared to cellulose contact humidifiers

- Higher energy savings due to a better pressure drop/efficiency ratio
- Higher water efficiency due to advanced water management system
- Low pressure drop allows for retrofit installation
- Panels can be removed individually, ensuring quick access to condensor
- High durability and long-term reliable performance
- Inorganic materials
- The Oxyvap® is VDI 6022 certified



Laboratory tested PreCooll performance

**Increased
cooling capacity**

778 kW → 872 kW (+12%)

**Reduced
peak power**

215 kW → 193 kW (-10%)

**Increased
EER/Efficiency**

3.63 → 4.51 (+24%)

Full load results

Part load results

247 kW → 297 kW (+20%)

64 kW → 55 kW (-13%)

3.88 → 5.39 (+39%)

The PreCooll performance is laboratory tested. Test conditions 36 °C (97 °F), relative humidity 38%, PreCooll leaving temperature 24.5 °C (76 °F).

Key components

Embedded controls

Smart adaptation to ambient and chiller operation modes

Pumping stations

Pumping stations with different capacities available

Adaptation kit

Quick and easy adaptation to existing installations

Evaporative media

Super-efficient Oxyvap® with anti-bacterial coating

Water sterilizer (optional)

UV-C eliminates waterborne bacteria and viruses

Pump

Selected to withstand even the harshest of climates

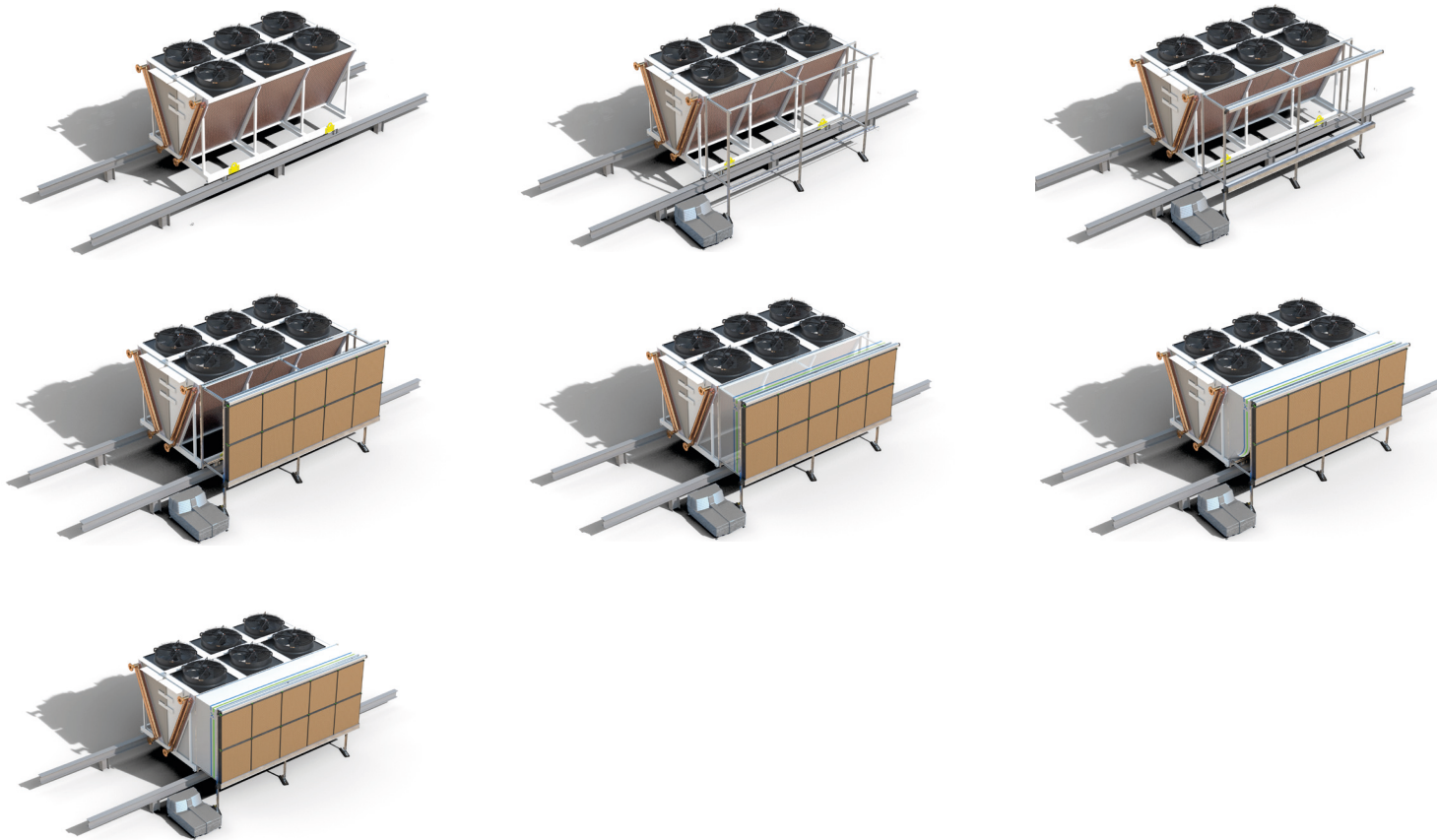
Water quality sensor

Monitors water quality and ensures optimal use of water



OXYVAP
Serial No. 144072

Modular setup and click-on panel system enable quick assembly and easy access to chillers





FAN NO. 3

Kelvion

PreCooll - Supermarket

PreCooll - Oxyvap®

Efficiency

90% - 93%

Pressure drop

44 Pa @ 2.0 m/s (0.177 inAq @ 394 fpm)

AquaMizer pumping stations

Rated power - Medium

232 W

Rated power - Large

292 W

Nominal water flow - Medium

50 Lpm @ 2.0 m head (13 gpm @ 79 inAq)

Nominal water flow - Large

70 Lpm @ 2.0 m head (18 gpm @ 79 inAq)

Nominal volume - Medium

75 L (20 gal)

Nominal volume - Large

130 L (34 gal)

Nominal wall length - Medium

10 m @ 2.0 m head (394 in @ 79 inAq)

Nominal wall length - Large

11 m @ 2.0 m head (433 in @ 79 inAq)

Dimensions - Medium

1000 mm × 595 mm × 506 mm
(39.4 in × 23.4 in × 19.9 in)

Dimensions - Large

1200 mm × 750 mm × 544 mm
(47.2 in × 29.5 in × 21.4 in)

References



TESCO - Hungary



Equinix Datacenter - The Netherlands



Logistic Union LLC - Ukraine



Steris - The Netherlands



Albert Heijn - Hellendoorn (NL)



Zapp - Germany



JUMBO - The Netherlands



Coca Cola- UAE



RAKEZ - UAE



Albert Heijn - Raalte (NL)



Equinix Datacenter - United Kingdom



Filtration Group - Germany



About Oxycom

We are pioneers. We design our highly innovative, natural cooling systems with one goal: reduce the global ecological footprint required for cooling, ventilating and heating of buildings. Founded in the Netherlands, we have been developing innovative adiabatic climate solutions since 2002.

Oxycom

Kaagstraat 31 - 8102 GZ Raalte - Netherlands

T +31 (0)572 349 400

E info@oxy-com.com

I www.oxy-com.com