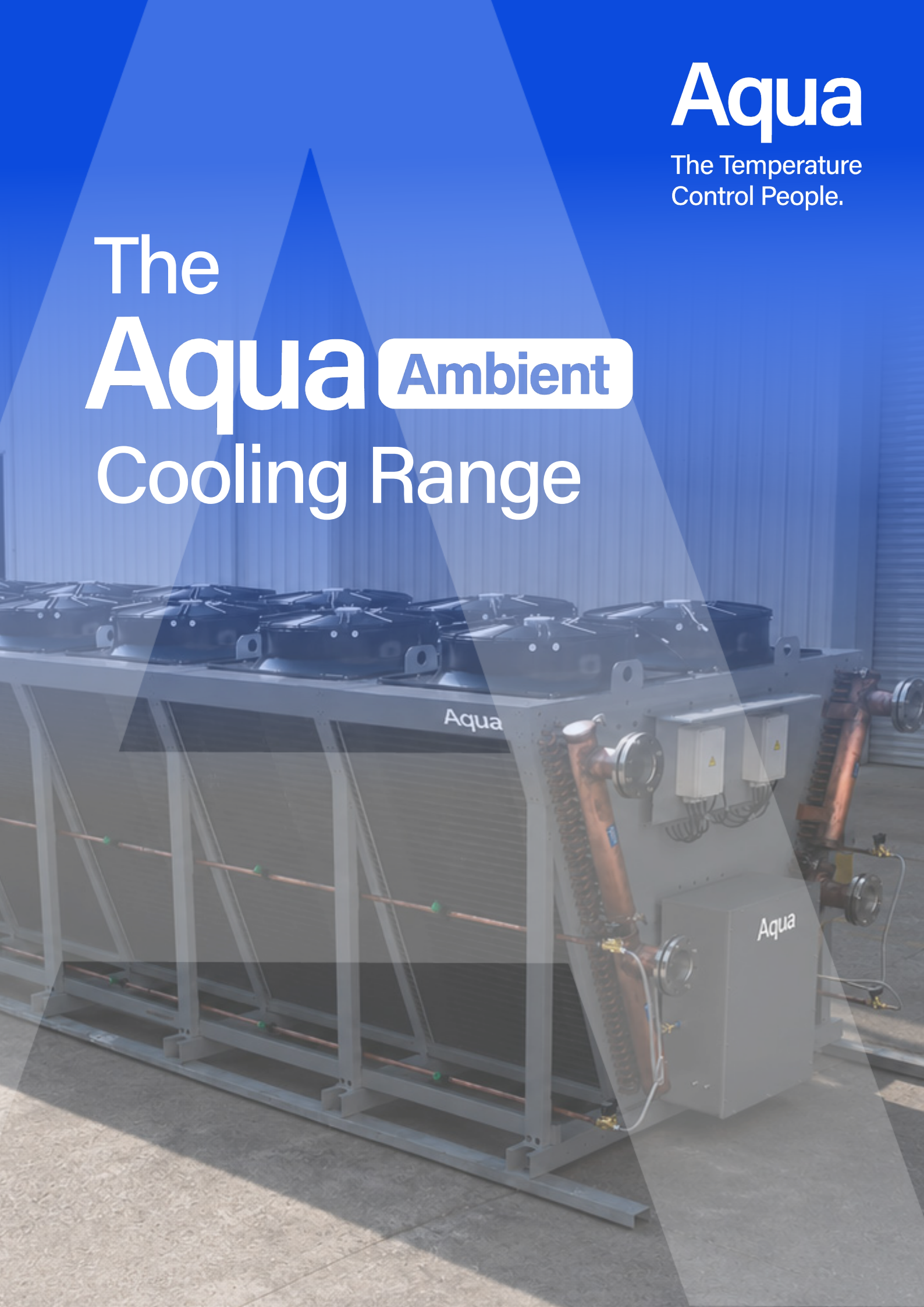
Aqua

The Temperature Control People.

The Aqua Ambient Cooling Range



Air Blast Coolers

Air blast, or dry air coolers, use ambient air to create cooling rather than mechanical refrigeration. It's therefore an extremely efficient, cost effective and sustainable option. Our units can cool to within 2°C of ambient and are available in a range of sizes from 3kW to 5MW. They can operate with water, oils or non-conductive dielectric fluids and in temperatures of up to 40°C.

Depending on space available, our units can be supplied as flat bed, vertical or V bank configuration. They can also be designed to fit on top of containerised systems.

Standard construction is 304 stainless steel tubes, hydrophilic coated aluminium fins and EC fans. However, we offer a range of options, dependent on fluid needs or the environment the equipment is operating within.

All Aqua units come complete with their own control panel, which can be tailored to your exact electrical requirements. If you have associated pumps and expansions sets, the controls and power of these can be combined into the same panel, reducing both the number of panels on site and the installation required.

Remote monitoring comes as standard, with various communication protocols including MODBUS and BACnet.

Free Coolers

Adding a free cooler to your cooling system will cut your energy usage, reduce your operating costs and minimise your carbon footprint. They can be integrated into a new or existing chiller system and with energy savings of 85%+ the payback is extremely quick.

Free cooling uses ambient air to cool return water, drastically reducing the need for mechanical cooling when outdoor temperatures allow. The ambient temperature will dictate whether partial or total free cooling is achieved. In the UK total free cooling is usually possible during autumn, winter and early spring. When outdoor temperatures rise in the summer the free cooler automatically switches operation.

The chiller will activate and the compressor takes over, ensuring the required cooling output is consistently maintained as the temperature changes.

In a typical installation, this can reduce energy consumption during the cooler months to just a few kilowatts, which is where the substantial energy savings come from.

All our free coolers have a fully integrated 3-way valve system which is operated directly from the unit's control panel.

Adiabatic Coolers

Aqua's range of adiabatic coolers are configured as a spray system or a wetted pad system depending on design requirements.

Adiabatic Spray System

Our unique pumped booster system keeps water usage to a minimum by ensuring the exact amount of spray is delivered to the air flow in front of the coil. It takes the mains water supply and boosts it to between 4-10 bar.

To keep the water system clean and free from bacterial growth, it is purged to drain before the spray system is activated. In addition, all mains water passes through an industrial grade UV filter and at the end of the spray cycle the water is drained.

The spray pump is controlled by an inverter to achieve correct water flow at any one time. All materials in contact with water are stainless steel.

Wetted Pad System

The wetted pad system achieves a higher level of water evaporation than is possible with a spray system. This enables the water outlet temperature to be closer to the wet bulb, which is important when process fluid temperatures are critical and need to be maintained at all times.

The pads themselves are made from plastic and coated to maximise longevity. All water dropped from the pads unused is recovered and recycled. This water is also drained on a timed basis so that there's no risk of salts and/or bacteria building up. At the beginning of each cycle the system is flushed before operation and then drained at the end of each cycle for the same reasons.

Retrofit Adiabatic Systems

Aqua's innovative adiabatic retrofit technology ensures your cooling equipment stays operational, even in a heat wave. It can be added to any equipment with a large external heat rejection system, including chillers, air blast coolers, condensing sets, cold store systems and large VRV /VRF air conditioning systems.

When temperatures rise, the retrofit system reduces the ambient air temperature reaching your cooling equipment by as much as 15°C. This keeps the equipment running as it should and it also allows it to manage the higher load that high temperatures create.

An adiabatic retrofit system can be fitted in as little as two days and the work can be carried out on site, with the equipment in situ. It uses standard mains power and there's no downtime involved during the installation, so business can continue as normal. As well as being quick to install, it's easy to maintain and the adiabatic functionality will only operate during periods of high ambient temperature. You'll also protect the lifespan of your existing cooling equipment as it won't be under such high demand.

Adding adiabatic capability costs just a fraction of what it would to replace your existing equipment with a larger capacity version. It's suitable for a vast range of applications, from critical cooling in hospitals & data centres to food producers, factory production & retail.

With meteorologists predicting that the hotter summer temperatures are here to stay, Aqua's adiabatic retrofit solution is a cost-effective way to future proof your business, ensuring you avoid costly downtime and unnecessarily investment.

The opposite before and after images illustrate how adiabatic retrofit has improved customers cooling systems.

Before

After

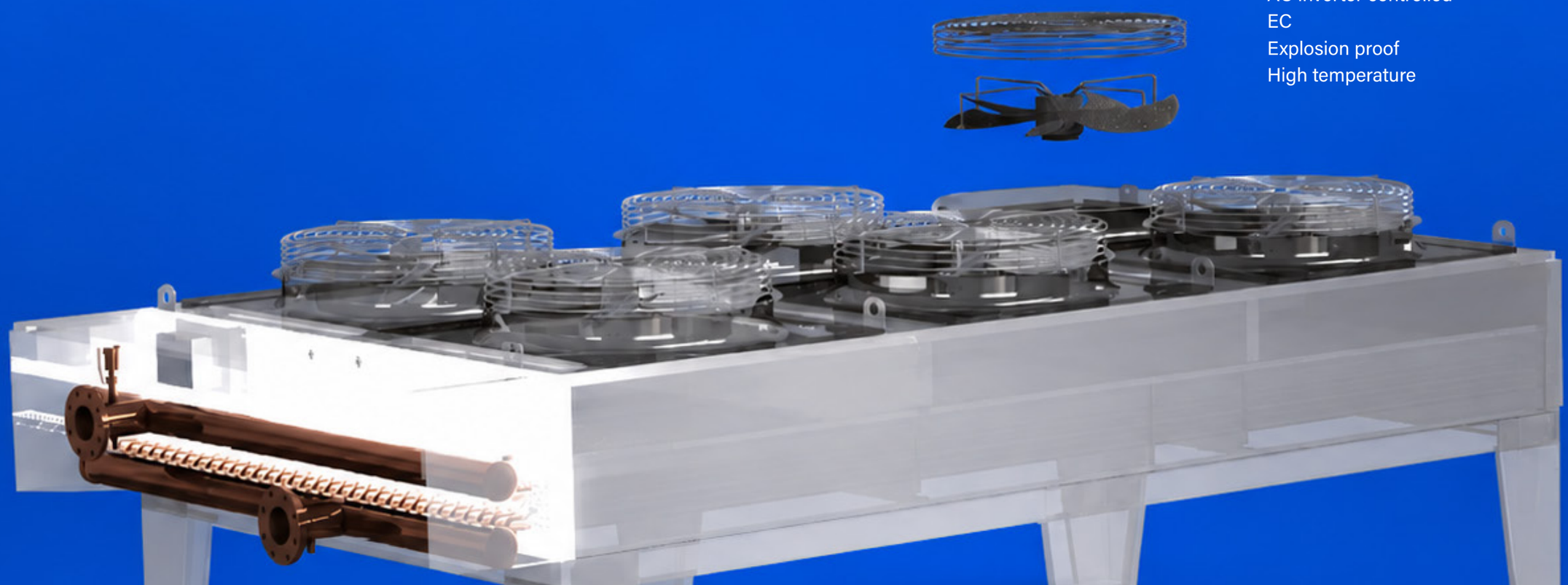
By incorporating an adiabatic retrofit, this London theatre avoided having to replace their 500kW roof top chiller. It's now gained a new lease of life and the show goes on, even in a heatwave!

Before

After

This 1MW air blast cooling system was originally installed for a plastics manufacturer based on a maximum ambient temperature of 27°C. With current air temperatures reaching 36°C, the original plant was failing until an Aqua adiabatic retrofit system was added.

Range Build Options



Fans

AC inverter controlled
EC
Explosion proof
High temperature

Connections

Flange
Stainless steel
Threaded
Titanium
Welded

Heat Exchanger Tube

Copper
Copper nickel (B10)
Copper nickel (B3 0)
Stainless steel 304
Stainless steel 316
Titanium

Frame

Aluminium-Magnesium
Powder coated galvanised sheet
Stainless steel 304
Stainless steel 316
Titanium

Fins

Aluminium
Aluminium-Magnesium
Blygold coated
Copper
Epoxy coated
Gold phenolphthalein-coated
Graphene
Phenolic coated
Stainless steel 304
Stainless steel 316
Tinned copper foil
Titanium

Installation And Maintenance

Steel structure

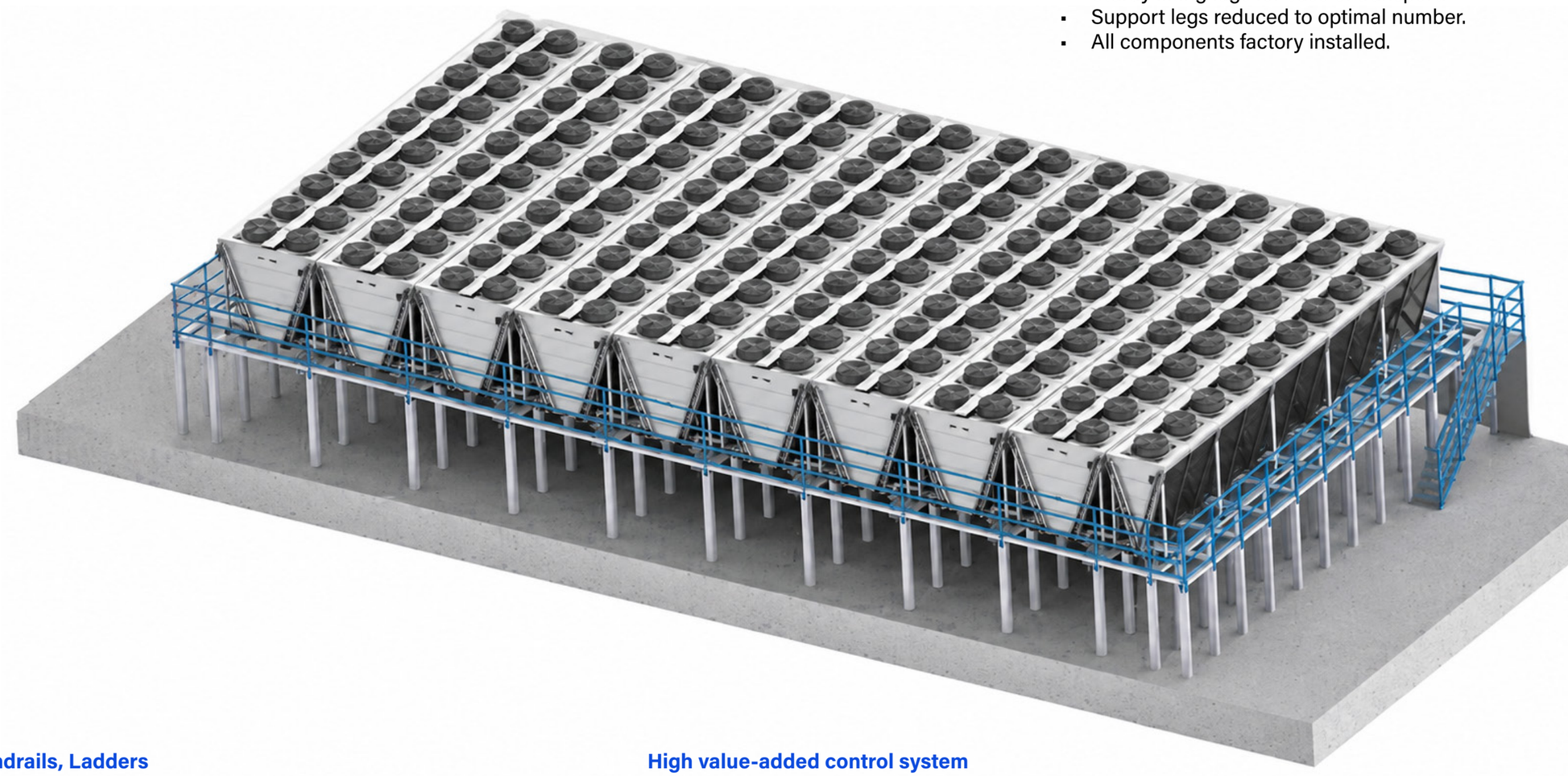
- Ensures sufficient air intake space and intake volume for maximum efficiency.

Easy Installation

- Sturdy lifting lugs for ease of transport.
- Support legs reduced to optimal number.
- All components factory installed.

Ease of transportation

- Modular design – easy to assemble.
- Standardised design – ideal for container sea transportation and land transportation.



Reliability and leak-proof performance

- Floating coil design – the heat exchanger tubes do not have contact with the frame.
- Side panels of the integral structure ensure torsional rigidity during transportation by crane or forklift.
- Consideration given to snow & wind loads.

Handrails, Ladders

- Ensures operation and maintenance can be carried out safely.

High value-added control system

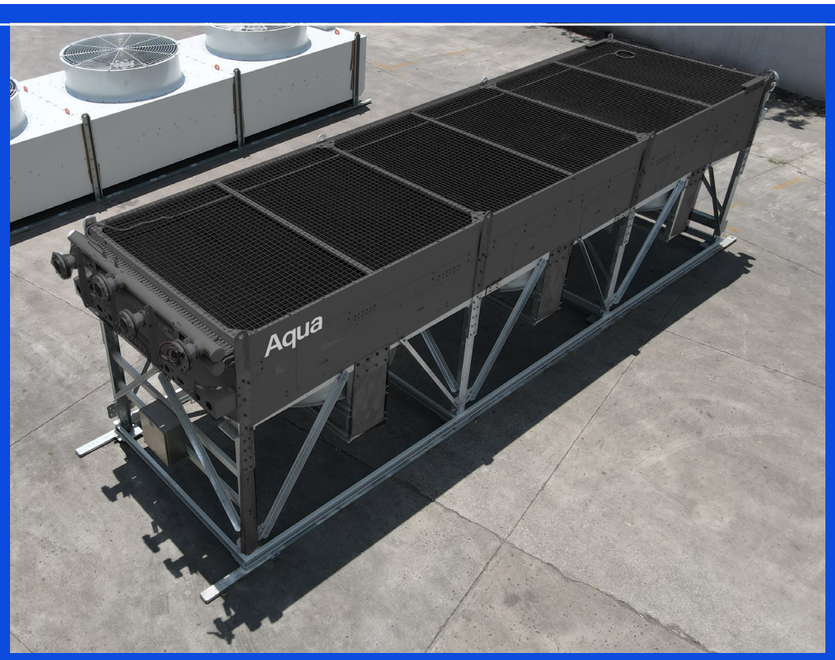
- Coolers are operated by a centralised control system to achieve optimal performance and energy efficiency.

Ambient Cooler Applications

Our ambient coolers are used in a range of scenarios across industrial and commercial settings. In addition to those illustrated here, we can also support with the following applications:

- **Data centre**
- **Water cooled & absorption chillers**
- **Gas fired & diesel fired genset cooling**
- **Air compressor cooling**
- **Induction heat & melting cooling**
- **Explosion-proof dry cooler**
- **CO_2 gas cooler**
- **Power generation**
- **Containarised direct immersion cooling**

Power Generation



Explosion-proof Dry Cooler

Containarised Direct Immersion Cooling

CO_2 Gas Cooler

Advanced Capability Temperature Control. Always by your side.

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f-gas register

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Constructionline Gold Member