

Aqua

The Temperature
Control People.

OEM Overview





Why Aqua?

Aqua have a 20+ year legacy of helping OEM clients with dependable, efficient, and technologically innovative, temperature control solutions.

We'll take away the hassle, simplifying the process and leaving you to focus on your business and your customers. From a single chiller unit to a fully custom designed process cooling system, our Sales, Hire and Service teams are on hand to support.



How Can We Help?

Technical Support

At Aqua you're looked after by a team of industry experts who have a wealth of experience within the OEM sector. They understand the challenges you face and work proactively with you to overcome them. Technical advice, quick quote turnarounds and specialist knowledge is only ever a phone call away.

In-house Design & Manufacturing

Our in-house design & mechanical services teams enable us to offer bespoke units and custom designed systems incorporating tanks, heat exchangers, controls, and pipework. They'll take an idea from concept stage to reality, however unique!

Commitment To Sustainability

We're committed to making a difference to the world we live in. All our process chillers operate on low GWP and natural refrigerants. We offer optimised free cooling and adiabatic cooling, alongside a range of ultra efficient industrial heat pumps.

A Joined Up Approach

Our Sales, Hire and Service teams work hand in hand to give a seamless experience. We're here for you as much – or as little – as you need. Plus, our rental fleet can be beneficial if you need something short term for R&D purposes.

Equipment from stock

We have a range of equipment ready for despatch from our Southern & Northern warehouses, perfect if you need something in a hurry!

Our Product Range

Process Chillers

From 1kW to 1MW+, capable of fluid temperatures from -45°C to +30°C. Process specific design, operating on low GWP, zero ODP and natural refrigerants. Integrated free cooling available as standard.

The unique evaporator design reduces chance of blockage and is highly efficient. Smaller units operate on single phase.

For applications within aggressive environments, we offer a range of options including special paint finishes and non-ferrous water circuit. ATEX rated units are also available.



TCU's

Aqua are the sole UK agent for the range of Single temperature control units, which are synonymous within the industry with quality, reliability, and energy efficiency.

Our TCUs provide precise temperature control and are ideal for a range of manufacturing applications, including injection moulding, plastic extrusion, vessel heating and laboratory testing.

Range includes three variants:

Water operated

For temperatures up to 225°C

Oil operated

Up to 350°C

Variotherm

Up to 200°C, ideal for instances where different temperatures are required in quick succession, for example in lamination processes.



Immersion Chillers

Air and water cooled chillers for oil & emulsion cutting fluids. From 3.6kW to 48kW, with stainless steel coil evaporator.

Complete Systems

If you're looking for a complete cooling system, we have a range of equipment, including adiabatic and dry air coolers, cooling towers, heat pumps, pumps, tanks, controls, and ancillaries.

Environmental Test Chamber Cooling Solution Helps OEM

An environmental test chamber is a controlled, enclosed space where various conditions can be simulated for testing purposes. They're used to evaluate the effect that things like temperature, humidity, altitude & vibration have on materials, objects, or systems. Aqua supported an OEM client with a custom design solution for a test chamber cooling application for their end user customer.

Situation

Ben Newman from our OEM team had worked with this particular client for some time and was familiar with the environmental and climatic test chamber solutions that they manufacture and supply. Their applications typically require a full turnkey approach, including the supply & installation of pipework.

They'd been asked to supply two test chambers to a university for their research team. They were being housed on the first floor of the University, with a further two being added to a ground floor space at a later date. Aqua were asked to help design a solution to provide cooling. The cooling equipment would need to be connected to the first-floor chambers and have additional capacity for the third and fourth chambers once in situ.

Solution

The two chambers had different cooling load requirements, one at 15kW and one at 28kW. There were also a number of logistical challenges that needed to be overcome by our internal design, installation & projects teams, in taking the project from concept stage to reality.

Environmental test chambers usually require a steady flow of chiller water because they're water cooled and simulate temperatures from very cold to extremely hot. Often the machines will shut off the water supply from the chiller as part of their functionality. Therefore, our chiller arrangement had to be customised, otherwise the chiller pump would deadhead, causing costly damage.

Aqua supplied an Aqua Pro chiller with an internal bypass. Then, when the test chambers close off and the flow stops, the bypass will manage the coolant and eliminate any risk of deadheading.

Because the chambers were situated on different floors, the pipework needed to reach up to the first floor. A hard standing area was extended so that the chiller could be positioned correctly and then the pipework run against a wall.

Results

Once installed, the University had the ability to operate either test chamber 24/7. This enables them to do their research at a quicker pace and speed up the results on their projects.

"Reliability and quality are key considerations within the R&D sector and our Aqua Pro units assure this," explains Ben. "They're specifically built for process applications and are robust, high-quality units, so ideal for test chamber cooling applications."

Aqua are also supporting with an enhanced Planned Preventative Maintenance plan, with rapid response time, ensuring in the unlikely event something goes wrong, an Aqua Engineer would be in attendance very quickly.



Custom Designed Cooling Solution for MRI OEM

Mobile scanning trailers are used across the UK to bring essential scanning to patients that don't have access to static facilities. Aqua were approached by an original equipment manufacturer, specialising in bespoke mobile spaces. They were keen to review the cooling used on their MRI lorry trailers. Aqua designed and supplied a new, custom designed system with a host of benefits, including built-in redundancy.

Situation

The customer had concerns that their existing system was outdated, as well as taking up considerable space within the trailer framework. They also had no contingency provision, should anything ever go wrong. Ideally, they were looking for an updated, more progressive design, with enhanced reliability and improved performance.

Reliability and redundancy are vital for any MRI cooling application, to ensure patient scanning appointments aren't compromised, and because cooling is so critical to MRI scanner operation.

Each scanner contains liquid helium, which cools down the MRI's superconducting magnets to a temperature of below -269°C . These magnets generate the MRI images. If the scanner loses cooling, there is only a limited time before the liquid helium must be discharged. Liquid helium is the only non-renewable element and a finite resource. It can cost over £1,000/10kg, so any issues can have a heavy financial impact.

Solution

Aqua designed a completely bespoke, modular cooling system arrangement to provide chilled fluid at the optimum temperature to keep the MRI scanner cool.

Each module consists of a condenser, fan, evaporator, compressor, and process fluid pump. Three modules are fitted on each trailer, in a 2 run, 1 standby configuration, along with an internally mounted control panel. They're mounted on a slider mechanism for easy access and fit on each side at the rear of the trailer, freeing up valuable space.

The 2 run, 1 standby configuration gives built in redundancy. If a module should fail for any reason, the system – and scanning – continues uninterrupted and the liquid helium is protected. In addition, each system is connected to the process via flexible hosing with quick release connections, meaning it can be inter-changed with a temporary hire solution if any repair work is ever required.

The system operates on sustainable R32 refrigerant which has a low Global Warming Potential (GWP).

Result

With the new modular system already deployed in several of their trailers, our client is already planning to roll it out across their fleet.

"One of the things I believe we do really well here at Aqua is challenging the norm and believing that there's often a better way of doing things" explains OEM Account Manager, Ben Newman.

"We are fortunate in having a fantastic in-house Design & Installation team and they really shone on this project. Our client has a system they can depend on, safeguarding their patients – and business – for now and the long term."





Sales. Hire. Service.

Discover the Aqua
Difference...



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