

Aqua

The Temperature
Control People.

Case Study | OEM



**Chiller Solution
Reduces Costs For OEM**

Client

CNC machinery OEM

Challenge

Under performing chiller solution

Solution

Correctly sized chiller, reducing outlay whilst improving performance

OEM clients are always on the look-out for ways they can help their clients achieve improvements, in both business productivity and profitability.

For a CNC machinery specialist, based in the South-East, they were actually able to decrease their initial outlay cost whilst achieving a better performance. Ben Newman, our OEM specialist, explains how:



Situation

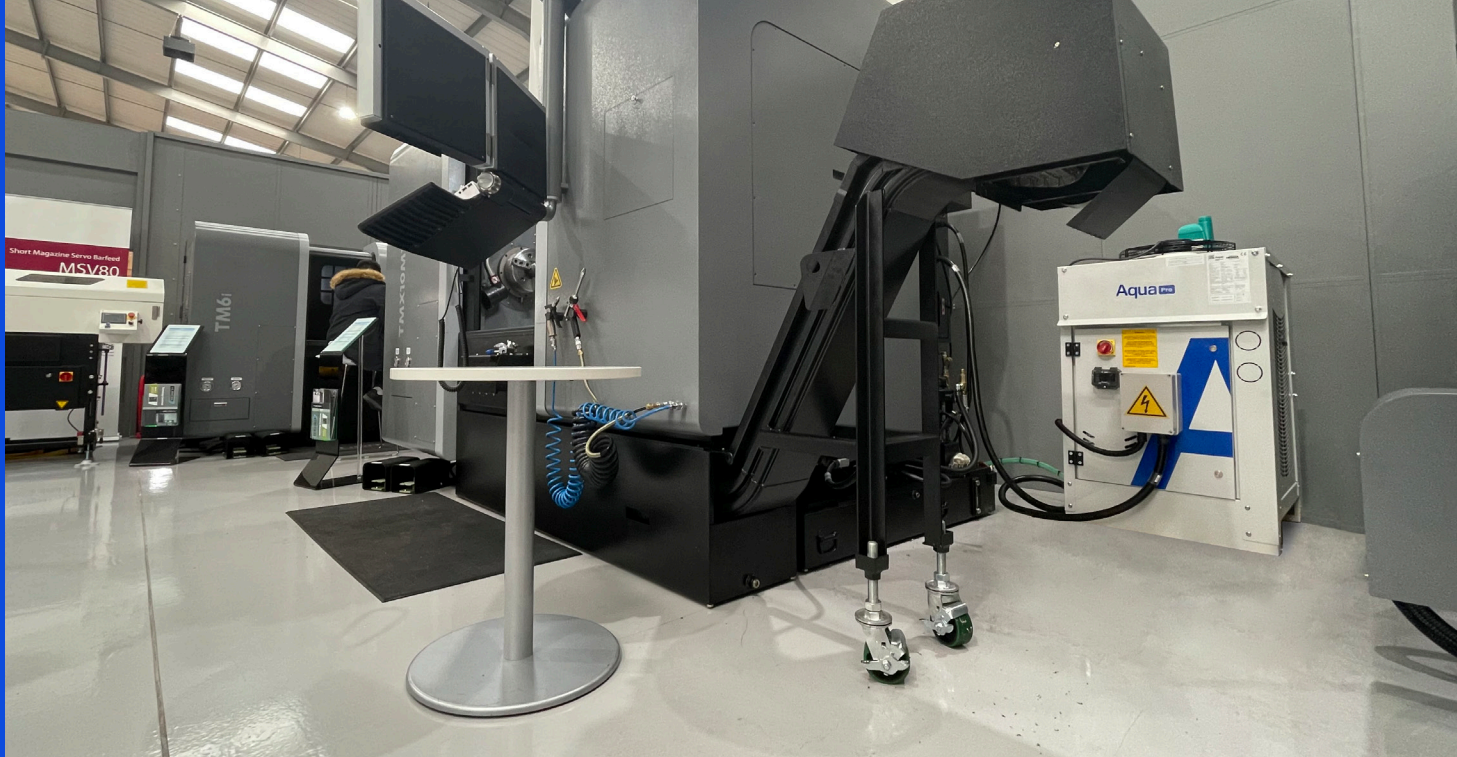
Computerised Numerical Control (CNC) is effectively a computerised manufacturing process whereby the machining tools are directly controlled by a computer. The process follows coded programmed instructions rather than relying on a manual operator. CNC machines are used in several different ways, often to produce customised parts, where accuracy and precise detailed design are needed. They're used across most industries, commonly in sectors like automotive, aerospace, healthcare, marine, military and defence.

Our client produces spindle CNC cutting machines. When they operate, the spindles and motors get hot, so need cooling. Each time a machine is supplied to an end user,

the client also supplies a stand-alone chiller. The chiller sits behind the machine, supplying chilled water. This chilled water is recirculated to the component parts to keep them cool.

After having a long-term relationship with a chiller supplier, they asked Aqua to review their cooling to see if any improvements could be made.

Early in the review process, it transpired that the chiller they used wasn't always performing as well as it could be. When supplying cooling to their larger CNC machines, the chiller often appeared to temporarily 'stop' cooling the fluid.



Solution

Aqua analysed the flow rate requirements and temperatures involved, which indicated that the existing chiller model being supplied was oversized.

Chillers have a fail-safe program, which only allows the compressor to start ten times per hour. If a chiller is too large for its application, the compressor will switch on, the fluid will reach the top of its range and the compressor will turn off again. Once this happens ten times an hour, the fail-safe will stop the compressor activating until a full 60 minutes has passed. Even though the chiller pump continued to circulate fluid, it was the compressor switching off that was causing the temporary pause in cooling.

The solution? Very simple to be honest. Aqua now supply a correctly sized chiller, from our Aqua Pro range. When the compressor is called for, it operates for longer each time, so the number of compressor stops and starts is now easily within the 10 time per hour limit.



Ben Newman
OEM Specialist - Aqua Temperature Control People

Our Original Equipment Manufacturer customers are in safe hands with Ben. He's a qualified mechanical engineer with a background in creating & designing commodities, from electrical connectors through to military mobile phones and plastic furniture for domestic fridges.

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Results

Essentially, a smaller capacity chiller costs less money, so our client's outlay automatically decreases! They also have reassurance that the performance of their CNC machines will be the same – if not better. Overall, this example proves that over engineering isn't always the answer!



For support with your next process cooling requirement talk to the team
– 0333 004 4433.