

GUIDE TO TACKLING SUMMER DOWNTIME IN PROCESS COOLING SYSTEMS

INTRODUCTION

While The Benelux is not renowned for heatwaves, nearly every year a small number of days see spikes in temperature upwards of 30°C, spelling disaster for manufacturers across the country. With these temperatures often exceeding the nominal specification for a plant's temperature control equipment, those sites without a contingency plan are subject to extensive equipment failure and production downtime equivalent to hundreds of thousands of euros.

Given the cost pressures facing Benelux manufacturers in uncertain political and economic times, the effects of seasonal temperature spikes could be make or break. Here we profile some of the main culprits to production downtime, and how manufacturers can future-proof their temperature control equipment – and their productivity – against the effects of unplanned summer downtime.





OVERLOADING AND UNDER-SPECIFICATION

One of the chief causes of temperature control system failure is overloading of mechanical elements – particularly the compressor – to the point at which they can no longer deliver the level of cooling demanded. This often occurs because the nominal specification for the process cooling system's maximum working temperature was too low.

Specifying to a maximum working temperature that is attainable for 360 days a year may seem like a viable way of keeping costs down, but it is the potential downtime caused by five days of temperature spikes that is likely to add enormous cost to manufacturers, both in terms of remedial work and production loss.



AGEING EQUIPMENT

While a chiller has an anticipated working life of between eight to ten years, it may drop to six or seven years if mechanical process cooling is required around the clock. Like any piece of plant, a chiller will deteriorate over time and while it may be able to handle temperatures at the higher end of the nominal specification during its intended working life, it may not be the case once these years have passed.

Just as your body is unlikely to stand up to the same physical demands as it could 15 years ago, the same goes for a chiller. Ultimately temperature control equipment is designed to operate effectively for a set amount of time, and continuing to put it under great strain once that time has elapsed is likely to result in costly downtime.



OVERLOOKING WATER MANAGEMENT

Poor cooling fluid quality is a major factor in system downtime that often goes under the radar. While mechanical failings that occur in extreme temperatures will become immediately obvious, if the process cooling fluid becomes contaminated or strays too far either way on the pH scale then it will quickly start to degrade the system's internal workings. Overlooking regular testing will see a deterioration in a system's heat transfer properties which will only worsen in periods of intense loading.



STAFF OVERHEATING

While a workman is only as good as his tools, if the temperature control equipment is struggling to cope with the effects of a heatwave, it's highly likely that the people are too. Failing to invest in appropriate ambient air cooling for the wider working environment is a sure-fire way to see productivity dip when the temperature rises.

SHORT AND LONG-TERM SOLUTIONS FOR EFFECTIVE TEMPERATURE CONTROL

Given the heightened risk of production downtime posed by seasonal temperature spikes, manufacturers need to be aware of both the short and long-term options available, which will see them – and their plant – through these tough times unscathed and on track with production.



TACTICAL PPM

Any number of small issues or flaws go unnoticed during periods of small-to-medium loading; yet, more often than not come to light under the strain of overloading, and ultimately result in breakdowns. Conducting a thorough service in advance of temperature spikes can ensure any potential red flags are identified and the necessary remedial work undertaken.

If significant faults are likely to occur, a temporary hire solution can be arranged to guarantee production continuity while the original plant can be taken out of the firing line and be fully repaired.



SHORT-TERM CONTINGENCY HIRE

For those manufacturers whose process cooling systems were specified to temperatures below those likely to occur in a heat wave, a short-term hire contract can deliver the process cooling boost needed to survive the summer unscathed. While the extra capacity may ultimately not be needed, having the contingency equipment on-site and ready to go will ensure that production can continue as planned in the face of a sudden heatwave.





SPECIFY FOR THE UNEXPECTED

When looking to commission a new process cooling system, the big factor to consider is balancing the overall cost of the plant vs the potential impact of downtime. Given the link between conservative or under-specification and summer downtime, manufacturers should come to expect the unexpected. In fact, it may be more cost-effective long term to opt for a system with a larger capacity that is guaranteed to operate effectively during seasonal temperature spikes.

LONG-TERM HIRE

With a long-term hire agreement, manufacturers can alter their mechanical cooling needs to suit the season. A cooling system with a higher power output can be ordered for the summer months, while that equipment can then be replaced with a more appropriate system, or even a rental boiler, during the colder times of the year.

What's more, as the equipment does not officially belong to the company, manufacturers can keep it off the balance sheet.

ICS Cool Energy has the most extensive fleet of hire equipment in Europe, and with long-term hire contracts including service and maintenance costs, the single monthly fee helps procurement teams to plan and budget.



FINAL THOUGHTS

There is a fine line between accurate and under-specification, and these small margins are magnified when extreme temperatures hit. While manufacturers are challenged with keeping costs down, placing too much of a focus on this can leave them exposed to the devastating impact of mechanical downtime. Thankfully, many of the issues can be negated with foresight and proper planning.

With short and long-term solutions to suit all budgets, ICS Cool Energy can help all manufacturers, regardless of size or market, keep their plant working efficiently and effectively when seasonal temperature spikes occur.

WE MAKE IT WORK



ABOUT ICS COOL ENERGY

ICS Cool Energy is a €50m temperature control solutions provider with over 30 years' international experience within the manufacturing and HVAC markets.

Offering sales, hire and service support, ICS Cool Energy can provide temperature control solutions for a wide variety of applications including: Food, Beverage, Chemical, Pharmaceutical, Healthcare, Plastics and Rubber, as well as HVAC solutions for Data Centres, Server Rooms, Factories, Facilities, Hotels and Leisure.

The business also offers 24/7 emergency breakdown cover, servicing and maintenance via a 24 hour a day customer service desk and an extensive team of field service engineers.



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