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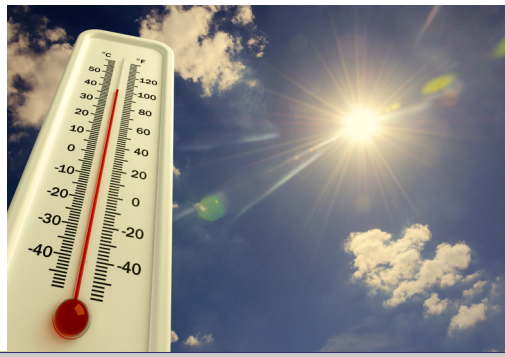
TECHNICAL BULLETIN:
PREPARING YOUR CHILLER(S) FOR SUMMER



Summer is an unreliable season and hot weather tends to surprise us – usually during the working week when we have little time to enjoy it.

Like overheating the engine in your car, the loss of cooling capability from industrial chillers and cooling towers during hotter weather can create huge problems for manufacturers such as excessive downtime, damaged chiller parts and product wastage.

To avoid being surprised by a failure to your process cooling equipment and ensure that production downtime is minimised, it is worthwhile asking the following questions:

HOW OLD IS YOUR EQUIPMENT?

Chillers are expected to last for a good 12 years, of course their lifespan is dependent on the conditions and frequency they operate at and how well they are maintained. Planned preventative maintenance programmes will help to keep components clean and in good working order, so that they are not put under strain from spikes in temperature. With innovations in technology such as scroll compressor chillers, it is worth considering replacing equipment over the age of 8 years. The benefit of new equipment usually means a warranty of up to 3 years on parts – providing greater reassurance.

HOW ARE YOU PROTECTING YOUR SYSTEM?

Dosing your water system with Glycol as an inhibitor is highly recommended. It's not just an anti-freeze, it helps to maintain the condition of the water that is flowing through your expensive chiller and heater components and pipework.

HOW ARE YOU MONITORING YOUR EQUIPMENT?

The development of software means you can now remotely monitor the conditions that a chiller is operating in. You no longer need to be on-site to access and rectify system faults and you can instantly control issues such as temperatures creeping above desired control tolerances – helping to avoid costly production down-time and waste.

With secure, real-time information on the operation and running conditions of the plant machinery you'll be able to identify energy, cost savings and system inefficiencies before production is affected.

ARE YOU CHECKING WATER QUALITY?

If a chiller's water and glycol mix is incorrect, the effects can be rapid and disastrous, leading to corrosion, the build-up of rust, system deterioration, and leaks. In addition, the build-up of scale (particularly in hard water areas), algae and debris can also clog vital components and cause them to work harder or even harder still in more extreme temperatures. A simple pH test and water samples will determine the condition of your system water and using industry experts, steps can be taken to restore your system and the water flowing throughout.

After an autumn and winter of wind, rain, leaves and debris, your chiller is probably in need of a thorough inspection and a good clean before the summer weather arrives when it will be put under greater pressure.

We have put together **7 practical steps** you can take in advance of an annual or bi-annual maintenance visit. These steps should only be undertaken whilst the chiller is stopped and isolated electrically and by a competent person who has undertaken a risk assessment and is fully aware of the potential hazards and necessary safety procedures.

1. DUST, DIRT AND GRIME

Windblown dust and dirt will permeate every nook and cranny on the chiller, its panels and the air-cooled condenser coil(s). Remove any waste, rubbish and general debris from the surrounding area and inside the chiller. This would otherwise be likely to be drawn into or onto the condenser air intake filter or the condenser coil itself.

2. CONDENSER

Any accumulation of dirt, dust and grime will cause progressive underperformance. As dirt builds up on your condenser coils, it makes it harder for those coils to transfer the heat from your process to the air outside. This forces your chiller to work harder, which reduces its cooling capacity and increases its energy consumption. The accumulation of dirt will also impose a greater load on the fans, drawing air through the coil, again resulting in loss of both performance and efficiency.

Our International Offices: England and Wales: 0800 840 4210 | Ireland: 04692 52934 | Scotland: 01698 7445 40 | France: 01 60 66 80 83
Germany: 0800 0116 0117 | Netherlands: 088 258 2580 | Belgium: 0800 29 110 | Austria: 01236 81 73 | Switzerland: 055 505 66 22

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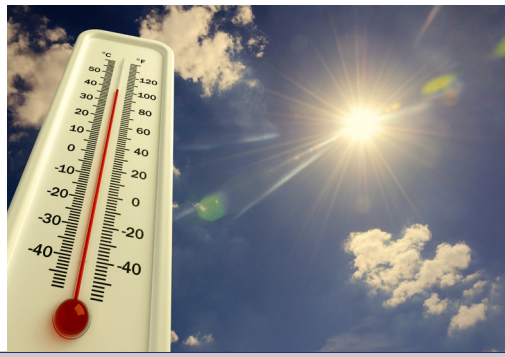

Dirty coils cost money, in terms of bigger energy bills, higher Climate Change Levy charges (where applicable) and a shorter life for the system and its components.

The condenser fins and coil may have been treated with an anti-corrosion protective spray, so take care to avoid damage to this coating – do not use hard or wire brushes. A soft hand brush or a purpose made narrow coil brush should be used to reach deeper into the finned coil block.

If the condenser is heavily fouled or the dirt is difficult to move, contact ICS Cool Energy to arrange for a full chemical wash and straighten any fin damage.

3. CONDENSER INTAKE FILTER

Where an air intake filter panel is fitted, it should be removed, examined, and cleaned. If dirt and/or dust is allowed to accumulate, it will have the same impact as a dirty condenser coil.

Once the fins and coil have been cleaned up, examine the fin coating.

If it looks like it needs patching up or recoating, contact ICS Cool Energy to arrange for a full examination and re-treatment advice.

4. PROTECTIVE CONDENSER FIN/COIL COATING

Once the fins and coil have been cleaned up, examine the fin coating.

If it looks like it needs patching up or recoating, contact ICS Cool Energy to arrange for a full examination and re-treatment advice.

5. PANELS AND STEELWORK

Wash down all panels and steel work and repair/treat, as necessary. Check for water accumulation around and under any supporting structure; check the condition of all supports and structures and repair/ retreat as necessary. Any dirt or mould left untreated or cleaned off will quickly become permanent and may become corrosive.

6. LEAKS

Check for leaks inside the chiller. Water leaks will be self-evident and should be repaired immediately. Refrigeration leaks are much more difficult to detect and generally require an examination and leak test by a qualified refrigeration technician, but small leaks can sometimes be identified by traces of oil directly under the source. Do not try to repair the leak yourself – contact ICS Cool Energy to arrange an examination and leak test.

7. INSULATION

Examine the condition of the thermal insulation – make sure it is in good condition and properly fixed to the vessel/pipework and that there are no condensation seepages; repair/replace, as necessary. Check all gauges and displays and clean where necessary. It is useful to keep a daily/weekly log of all gauge readings to assess the continued proper operation of the systems.

CONSIDER AN ICS PLANNED PREVENTATIVE MAINTENANCE PLAN FOR ADDED PEACE OF MIND

- **SAFEGUARD AGAINST DOWNTIME**
- **TRUSTED SERVICE PARTNER**
- **FAST AND EFFICIENT PROCESS**
- **SYSTEM WATER ANALYSIS OPTIONS**
- **INCLUSIVE REPAIRS THROUGHOUT WARRANTY**
- **COMPLETE PEACE OF MIND**

Chiller servicing and planned maintenance is preventative and is the most effective way of ensuring your chiller equipment remains operational and efficient over its full maximum life.

PROCESS TEMPERATURE CONTROL SPECIALISTS.
SALES. HIRE. SERVICE.

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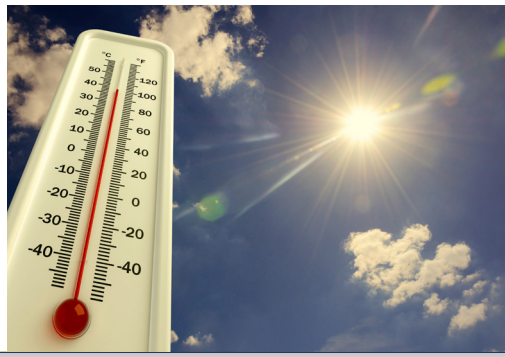

ICS Cool Energy carries out industry leading 100-point check on even standard service contracts. We offer courtesy rental with service as a contingency, regulatory F-Gas checks, water treatment, oil analysis & refrigerant circuit maintenance. We can also offer remote monitoring and fuel management as a complete service to keep your operation running.

- Full F-Gas Compliance
- Dedicated Service Account Manager
- Fewer Repairs
- Priority Response Times
- Discounted Spare Parts
- Equipment Lifespan is Extended
- Courtesy Rental Options
- Complete Process Peace of Mind
- Comprehensive 100-Point Check
- Prices Fixed for 3 Years
- Downtime is Limited
- All Makes & Models Serviced

EMERGENCY CHILLER RENTAL IF A BREAKDOWN OCCURS AND CONTINGENCY PLANNING

It is critical that process and facilities temperature control runs efficiently and uninterrupted for manufacturers, FM/M&E companies & healthcare providers. Any changes in operation, from a chiller failing to cool effectively, completely, or simply being unable to cope with seasonal peaks.

ICS Cool Energy help businesses resume operations, avoid downtime, save money, and keep industry running every single day. There is no time to lose when your temperature control systems break down.

We are there to help when emergencies strike – 24/7. We are national and local. Our expert teams are located across the country making it possible for us to be on site within hours. Our depots stock an extensive range of the latest hire equipment and ancillaries so we can design and fit the solution that gets our customers up and running again.

When your process downtime is not an option, secure your process cooling or heating supply by having ICS Cool Energy deliver a full contingency plan agreement. Our expert team will arrange a full site survey to plan everything required in advance to minimise downtime.

A GREAT WAY TO MITIGATE INCREASED SEASONAL COOLING DEMANDS WITHOUT THE NEED FOR CAPITAL OUTLAY

FLEX is our Fixed Long-Term Exchange program for bespoke temperature control equipment without the need for capital investment. Benefit from the latest most efficient chiller technology and low GWP refrigerants with the peace of mind that all planned maintenance and emergency breakdown repairs are included for a known subscription cost. Flex your temperature control capacity and upgrade to new equipment for efficiency gains and carbon footprint savings.

SPACE COOLING CONSIDERATIONS WITH SUMMER IN MIND

ICS Cool Energy are specialists in supplying temporary space cooling and air conditioning solutions for applications of all sizes. We offer fan coils, air handling units and portables for emergency, short/long term hire and our industrial chillers are also available for larger applications when used in conjunction with our air handler and fan coil units. All our equipment is designed with energy efficiency and environmental concerns in mind following the latest technological developments.

For more advice on preparing your chillers for summer, to arrange a comprehensive planned preventative maintenance contract or discuss rental, FLEX and portable summer cooling, please contact us directly on **0800 840 4210.**