Aqua

The Temperature Control People.

Hot Weather Help Sheet

Protect Your Operation From Equipment Breakdown This Summer

Along with warmer days comes an increased need for cooling in both process and comfort applications.

When the cooling demand increases, so does the stress on your plant.

If Planned Preventative Maintenance (PPM) has not been religiously carried out, water has been left untreated or the system was simply not designed for such demand, then this can lead to equipment failure.

Common breakdown causes from chiller condenser fans to chilled water pumps, compressors, and auxiliaries – most problems can be broken down into mechanical, electrical, and control issues.

Here are some of the common issues to look out for and how they can be solved:

	Mechanical Issues	Electrical Issues	Control Issues
	1. Condenser and Condenser Fans		
⚠	**High pressure fault**	**Fan speed control, wiring, or condenser fan motor faults**	**Increase in cooling water teperature**
📋	• **Check all fans are running** • **Clean condenser with a soft brush**	**Check components visually and with diagnostic equipment**	**Clean the condenser/ check fan operation**
	2. System Pumps		
⚠	**Vibrating pump**	**Variable frequency drives slow when demand increases**	**Lead pump failure**
📋	A vibration tester can be used to diagnose common mechanical problems and help avoid pump failures in the middle of the season	Check for a blocked filter and clean	Check that a smooth transition from the “lead” pump to the “lag” pump will take place in case of failure

	Mechanical Issues	Electrical Issues	Control Issues
	3. Discoloured Cooling Fluid		
⚠	**Loss of cooling or flow**	**Pump seal & motor failures**	**Temperature difference across equipment is higher than normal**
🔍	Diagnose if system has biological growth or corrosion and treat accordingly	Check if pumps are either blocked or trying to pump no water	Filters or equipment blocked due to oxide or Bio fouling - check and clean
	4. Chillers Just Not Meeting Temperature		
⚠	**Chiller short of gas**	**Temperature probe failure or creep**	**Condenser fans running permanently or not speeding up**
🔍	Check system charge	Replace probe or re-calibrate	Check for condenser blocking or fan speed controller failure

Prevention is better than cure

Following a Planned Preventative Maintenance programme (in line with both F-Gas regulations and your operational requirements) will help you to avoid equipment and component failure.

Choose a maintenance provider who understands your operation and includes water checks and treatment as part of the service.

If your provider can offer a dedicated service engineer (the same engineer to carry out all of your maintenance), they will be able to add extra value to your site and operation over the longer-term.

Contingency Planning

Plan for heatwaves. They tend to happen at least once a year – any time from April to October. If you know your demand for cooling capacity will increase during a heatwave, you can hire additional equipment to cover this.

Find a partner who can help you plan for a heatwave, including supply and install of ‘plug and play’ hire equipment for a stress-free operation.

Even with all the forward planning through your PPM contract and with all the will in the world, breakdowns can still happen.

If an equipment breakdown is going to significantly affect your operation, you can add resilience by having a stand-by or more modular equipment – providing reassurance that no matter what, you can continue to keep that needed cooling capacity.

To find out how we can help protect your operation from equipment breakdown, please call us on **0333 004 4433** or email **service@aquacooling.co.uk**.