ics cool energy

SAVING BUSINESSES ENERGY, REDUCING COSTS, & LOWERING CARBON FOOTPRINT

Mission Critical

INTRODUCTION

Our enterprise "Gigaton Challenge" aims to reduce carbon emissions by one billion metric tons by 2030 from customer's use of our product equating to the annual CO2 emissions of Italy, France and the UK combined. This eMission Critical brochure details products and services from ICS Cool Energy to help you reduce your costs and carbon footprint through improved energy efficiency. Sustainability is at the core of our business. We believe we can change an industry that can change the world.

UPGRADE

VARIABLE SPEED DRIVES

Controlling the flow of air and water in process temperature control systems is an effective, permanent way to meet the ever-changing demands put on a system and enhance its efficiency.

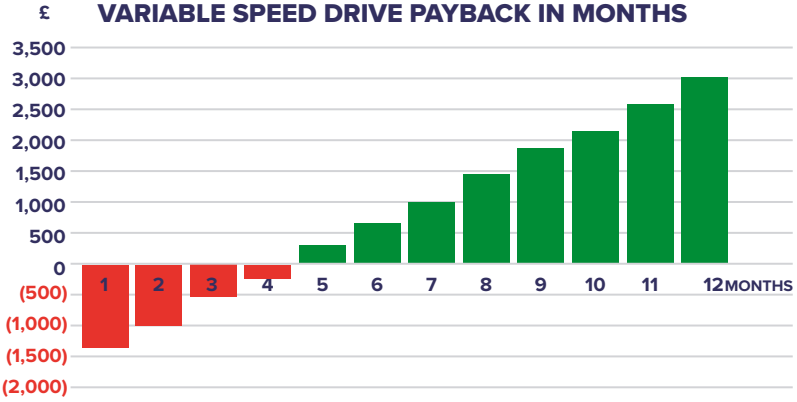
ICS Cool Energy can install a Variable Speed Drive or VSD (an electrical/ electronic system that provides infinitely variable speed control of AC induction motors). VSD's can be installed to meet varying system flow rate requirements or just to increase energy efficiency.

Payback on an installed system can be as little as 6 months.

We can retrofit variable speed drives, where smaller pumps are fitted. These pumps are all in one with the pump, motor and frequency drive combined giving greater flexibility and a factory-installation look. For horizontal pumps, installation is much faster with less disturbance, meaning less process down time. Vertical pumps sometimes require some system modifications and pipework to accommodate.

BENEFITS OF VARIABLE SPEED DRIVES

- Reduction of system energy input
- Delivery of additional capacity for your process needs
- Delivery of design capacity without interruptions, even in higher ambient conditions
- Extension of equipment operating range beyond its original specifications conditions



The example in the chart is based on an i-Chiller 640 model, operating 24 hours a day, 7 days a week, with an electricity cost @ 28p/kW.

Payback on £1,751 investment in just over 4 months!

A net saving in excess of £20K over 5 years!!

flex MEMBERSHIP

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.

Benefit from the latest most efficient process temperature control technology with no capital expenditure and rethink your approach to process temperature control.

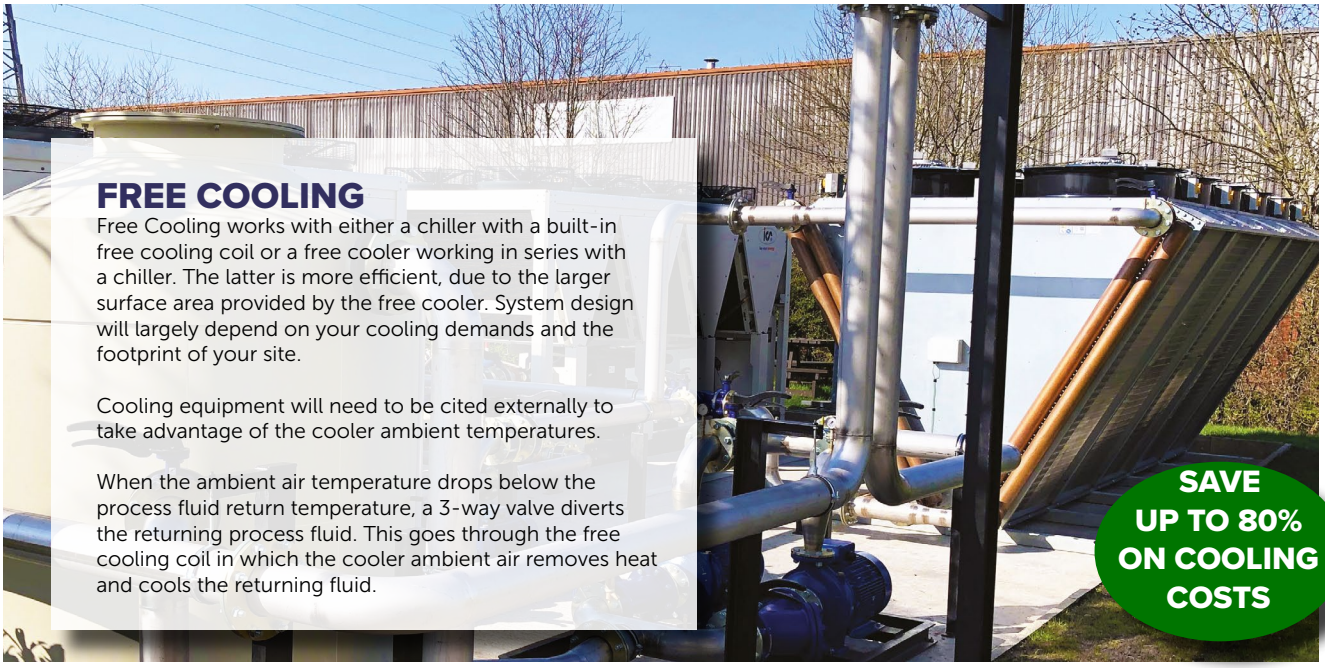
- FLEX your capital
- FLEX efficiency upgrades
- FLEX capacity
- FLEX your contingency plans
- FLEX your risk

FREE HEATING

The iFH (Free Heating) products available from ICS Cool Energy harness the rejected energy from a process or HVAC circuit & utilise it to assist in the generation of low temperature hot water up to 80°C.

As a result, it reduces the energy consumption of the cooling source & maximises the energy efficiency of both a site's heating & cooling circuits.

If you have a process that needs heating, this heat can be recovered from the chiller via our i-FH unit and then supplied directly to your boiler, reducing the heating load and drive down energy costs as a result.



FREE COOLING

Free Cooling works with either a chiller with a built-in free cooling coil or a free cooler working in series with a chiller. The latter is more efficient, due to the larger surface area provided by the free cooler. System design will largely depend on your cooling demands and the footprint of your site.

Cooling equipment will need to be cited externally to take advantage of the cooler ambient temperatures.

When the ambient air temperature drops below the process fluid return temperature, a 3-way valve diverts the returning process fluid. This goes through the free cooling coil in which the cooler ambient air removes heat and cools the returning fluid.

SAVE UP TO 80% ON COOLING COSTS

AUDIT

ICSLink is a remote telemetry system which collects performance data from your asset, transmitting it through its' web interface, which is supported by all mainstream browsers, or through its' mobile app. So you'll have 100% visibility of your data 24/7, wherever you are!

With the industry leader in remote monitoring equipment, it utilises the latest solid-state technology with no moving parts and incorporates internal watchdogs for mutual performance verification and reliability.

ICSLink can be fitted to a huge range of new and legacy temperature equipment, rented or owned, and will fit within your existing building management system.

ICS COOL ENERGY CAN OFFER REMOTE MONITORING FOR:

PUMPS
CHILLERS
FAN COILS BOILERS
AIR HANDLING UNITS

THE BENEFITS OF ICSLINK:

50%
Fewer visits

55%
OPEX reduction

75%
Issues resolved on first visit

100%
Visibility

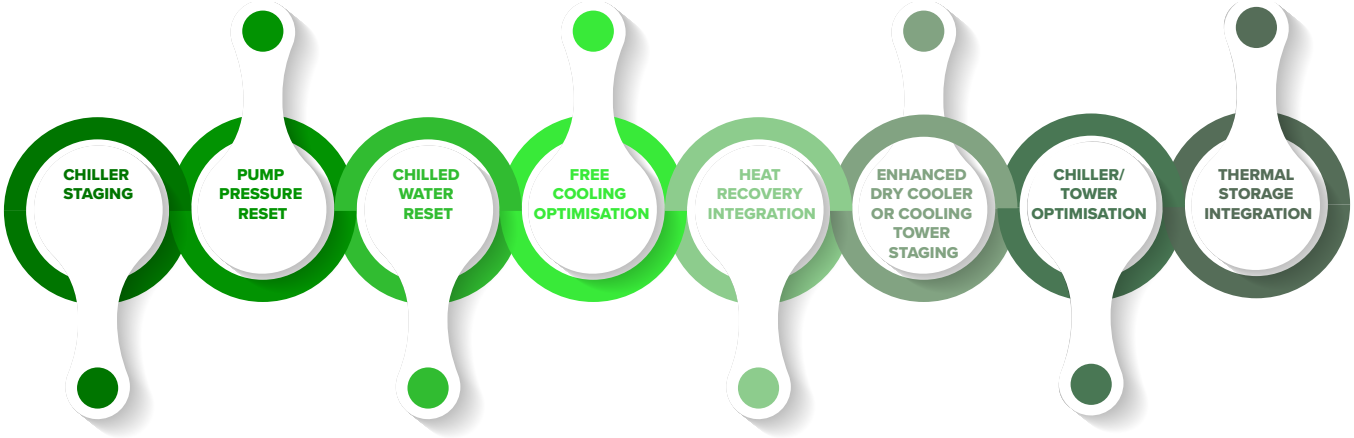
ASSET MANAGEMENT

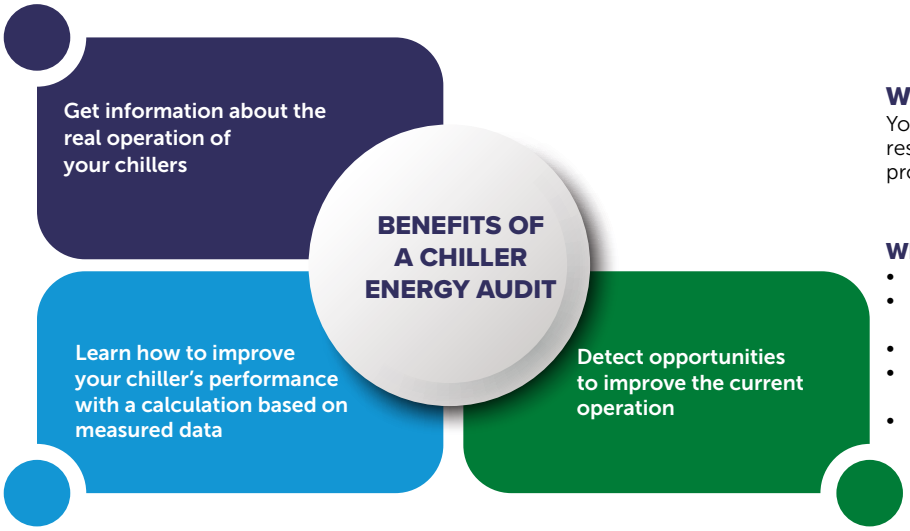
For national, multi-site operations, facilities management providers or any business needing to manage multiple temperature control equipment assets, ICS Cool Energy can help.

Our asset management services include enhanced condition-based reporting, enhanced regular updates on site activities, critical risk-based site contingency planning, energy audits, advice and bespoke SLA's. We take care of everything to keep your industry running.

CHILLER ENERGY AUDIT & HEALTHCHECK

We deliver efficiency gains by applying our industry leading system knowledge to virtually every aspect of chiller plant operations.





WHY AUDIT?

You will get charts showing the measurement results, analysis of the measurements and a proposition of enhancements to the chiller.

WHAT WILL WE MEASURE?

- Chiller Cooling Capacity & Power Input
- Chilled water Leaving & Entering water temperatures
- Ambient temperature
- Audit Case – developed specifically to audit chillers
- Data measured and logged typically over a two-week period

PROTECT

CONTINGENCY PLANNING / READY FOR HIRE

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. We will arrange a full site survey to plan everything required in advance to minimise downtime.

The fastest way to ensure an uninterruptable supply is to leverage our national team of service and installation engineers and over £50m of rental cooling and heating equipment complete with all ancillaries needed including electrical cables, hoses, heat exchangers, pumps, Fan Coils and AHU equipment.

Risk mitigation and contingency planning is ideal for industries that have critical processes including, plastics, healthcare, food, beverage, chemical, pharmaceutical, manufacturing, data centres and HVAC.

Be prepared when the unexpected happens and keep your operations up and running with a contingency plan. Our experienced team will work with you to build a plan and prepare your facility to mitigate risks and minimise downtime. Plans may include adding extra valves & pipework into your existing installation to allow a rental unit to be added quickly when needed. We have choices when it comes to the equipment needed.

The most secure solution is having a rental unit on standby already connected at your premises as an immediate back up.

01

An intermediate solution with the guarantee of a rental unit is to have equipment reserved at the closest ICS Cool Energy depot that is always available for quick delivery, installation, and commissioning.

02

The basic solution is to have a plan prepared but with no reservation, we prepare the site with the stabbings required and rely on fast delivery installation and commissioning of the rental equipment. This option saves on any site survey being required due to the plan provided but is still high risk when compared to the first two options.

03

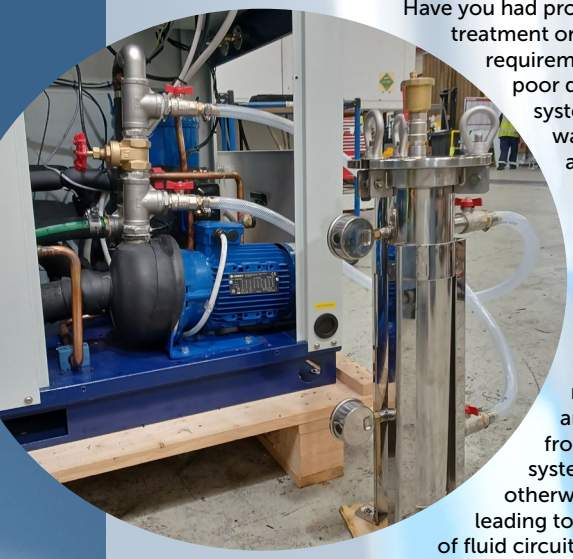
WATER TREATMENT

Water is a complex thing, made up of many components that react to the environment they are placed within. No one system is the same and/or remains for any length of time. Mains water is the same but different depending on geographical local. As a result, water treatment is not a one-off.

Chilled water needs to meet several criteria to be suitable to be used as such. PH needs to be such that the chemical make up remains stable and doesn't create a chemical reaction. Adjustments need to be made for the environment; for example, system specifics inhibitors need to be added for the metallurgy makeup of the system, system specific glycol needs to be added for the type of process and biocides may need to be added and then monitored to suit a particular system issue.

Water treatment is the most forgotten service element in the chilled water industry but is one of the most important for reliability and efficient system operation. This can mean the addition of glycol, inhibited glycol, inhibitor and/or a biocide. Each element has a benefit as well as a negative impact within a system. Careful monitoring and dosing of a system is necessary to ensure efficient and reliable operation.

PROCESS FLUID (CHILLED AND HOT) FILTRATION



Have you had problems with water treatment or have an ongoing requirement to correct poor quality fluid in your system? Filtration of a water circuit offers a permanent and ongoing solution for controlling the water quality of your critical system.

Our permanently installed system removes debris and particulate from the fluid system that would otherwise build up leading to potential failure of fluid circuit components (Evaporators, condensers, heat exchangers, pump seals or shafts, valves etc.). Poor water quality also serves to lower the efficiency of your cooling or heating plant through losses in heat exchange capabilities.

Filtration offers significant benefits over waiting for a system to become contaminated and then delivering a clean-up solution via a one-time system chemical flush of the water circuit that include:

- Permanent on-going solution – filter housing to remain in place allowing for routine inspection, change and washing of filter bags. Flushing without any permanent aftercare may allow the water system to keep or return to the quality.

- Reduced system down time for installation – flushing requires the process to be down to allow the multiple drain downs to clean and remove debris from the circuit. Installing a filter requires minimal downtime in comparison.

- No downtime required for servicing – valve off the filter system and remove the filters whilst the system remains operational.

- Environmentally preferential – flushing a water system generates a significant amount of water usage and waste (typically 4 times the system volume). Filtration generates no waste as the current water is not disposed of but rather cleaned to bring back to specification.

- Dual use – to maintain water quality from time-to-time additional chemicals may be required. The filter housing can also be used as a dosing pot to introduce chemicals as it can be temporarily isolated from the system without the need for shut down.

- Full process flow maintained – using a side stream filtration technique, a portion of the flow is pushed through the filter and then re-introduced back at the same point, this means no flow is lost through the process as a result of installing the filter.

- Designed for Process systems – the system is installed as a kit keeping warranty in place of supplied equipment.

OIL ANALYSIS

The only contents within a refrigerant system should be refrigerant and oil. Modern polyester oils are very hydroscopic. Every time intrusive work is carried out, moisture is inadvertently allowed to enter the system.

Moisture mixed with polyester oil turns into acid, which leads to system degradation and component failures. Acid attacks the electrical insulation within compressor motor windings – eventually leading to an electrical compressor failure or what is commonly called a "burn-out".

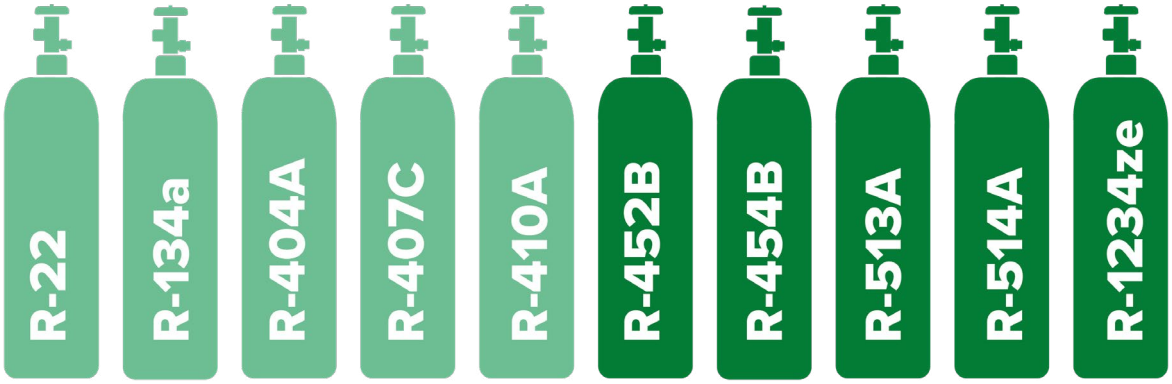
ICS Cool Energy can analyse the oil within your refrigeration circuit to identify early signs of potential failure, noting moisture, acid and metallurgy. We will then make recommendations in line with the results.

REFURBISH

CONTROLS UPGRADE

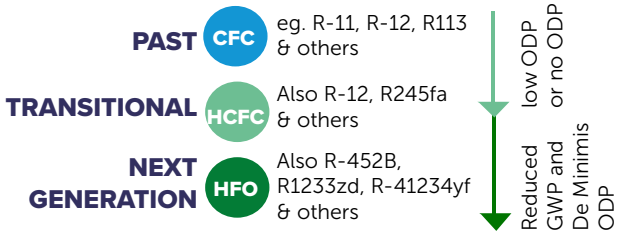
Scroll and screw chillers can be retrofitted with an upgraded control system, giving more accurate control as well as the ability to add remote monitoring through ICS Link or local BMS systems.

Intelligent services also mean the possibility of remote service visits and enhanced diagnostic capability over any previously installed outdated systems. Retrofitting a new controller can prolong the lifespan of your chiller.



REFRIGERANTS

We offer a wide range of next generation low GWP (global warming potential) or No ODP (ozone depletion) refrigerant blends, specifically manufactured to lower your carbon footprint and with sustainability and the environment at the forefront.



BENEFITS OF REF CLEANSE

- Extended lifecycle of equipment
- Prevent expensive component failures
- Avoids costly virgin refrigerant through recycling
- No need to use inferior solvents or cleaning agents
- System is quickly returned to full operating performance and efficiency

REF CLEANSE

Cleaning up a contaminated system with traditional solvents is a risk, with our Ref Cleanse system we can recycle the recovered refrigerant (removing any contaminates) as well clean the refrigerant system and leaving the system immaculately clean.

Our highly qualified engineers utilise our Ref Cleanse system which provides a cascade, triple filtration process. The system components are segregated, and refrigerant flushed through each area.

It works by using refrigerant to clean the system, lifting out oil which holds acid and carbon and leaves a system clean and as reliable as it should be. Our system allows us to work on circuits up to 40kg of refrigerant charge.

All contaminates including oil, carbon, debris, sludge, and any trace of moisture are completely removed from the circuit which is returned to an "as new" status.

Additionally, we can recycle contaminated refrigerant that would normally have to be disposed of, reducing impact on the environment, and creating considerable savings.

SPECIALIST FOR OVER
35YEARS

MARKET LEADING ENERGY EFFICIENT PRODUCTS

CHILLERS/ BOILERS/ PORTABLE AC/ PORTABLE HEATERS/ AHU/ IDF/ COLD STORES/ HEAT EXCHANGERS/ TCU

EU-
250+
EMPLOYEES
9 COUNTRIES AND 21 SITES

FREE COOL- UP TO 80% SAVINGS

BOILERS UP TO 2MW FOR HIRE

TEMPERATURE CONTROL SOLUTIONS
PROCESS & FACILITIES

-60°C min

350°C max

LOW GWP REFRIGERANTS

UP TO SAME DAY DELIVERY

TECHNICALLY TRAINED ENGINEERS

flex ALTERNATIVE TO CAPITAL PURCHASE

e-Mission CRITICAL

KEEPING INDUSTRY RUNNING

ENERGY SAVING RECOMMENDATIONS

CONTINGENCY EQUIPMENT AND PLANNING

DESIGN,
MANUFACTURE,
DELIVER, INSTALL,
COMMISSION
HIRE, SERVICE & SALES

ICS LINK REMOTE MONITORING

24/7 TECHNICAL SUPPORT

Mission Critical

To book your consultation or find out more, call us on

0800 840 4210

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PROCESS TEMPERATURE CONTROL SPECIALISTS.
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