



i-TEMP

**COMPLETE TEMPERATURE CONTROL SOLUTIONS
FOR PROCESS AND INDUSTRIAL APPLICATIONS**



NEXT GENERATION TEMPERATURE CONTROL UNITS

Water and Oil 4 to 350kW

TEMPERATURE CONTROL SPECIALISTS KEEPING INDUSTRY RUNNING SINCE 1989

When temperature control is critical to your production quality and operation, you need an experienced and reliable partner, to provide effective solutions and keep your processes running efficiently.

ICS Cool Energy are process temperature control specialists. Our technically trained engineers will work in partnership with you to provide the most efficient temperature control solutions for the demands of your process, constraints of your site and budget.

Through one point of contact we develop, manufacture, deliver, install, hire and service high quality, energy efficient and reliable temperature control solutions from -70°C to 430°C for your applications.

Since 1989, we've been providing technical advice and solutions to leading manufacturers worldwide, helping them to meet compliance, improve their product quality and cycle times whilst reducing their energy consumption and operative costs.

KEEPING 
INDUSTRY RUNNING

FULLY PACKAGED TCU's

i-TEMP RANGE -20°C to 430°C | 4 to 350kW

The i-Temp range of temperature control units are designed and manufactured specifically for ICS Cool Energy, with high quality German engineering. They are simple to install and offer unrivalled temperature control on applications such as jacketed vessels, jacketed pipework and moulding machines.

They offer a large performance range by utilising a modular design with various combinations of heating and cooling elements which cater for a wide variety of applications.

With direct and indirect cooling options available, the water, steam to water and oil temperature control units are available with advanced controllers for the ultimate control and repeatability of process temperatures up to 430°C.

Choose from **i-TEMP COMPACT** and **i-TEMP** ranges depending on your requirements.

i-TEMP COMPACT

We offer three product lines based on your requirements:

base.line

high.line

NEW eco.line

i-TEMP

flex.line



The inexpensive ones!

In terms of its efficiency and user-friendliness, the **base.line** series is in line with the current "simpler" market standard which is based on peripheral pumps.

The individual ones!

In terms of its efficiency and user-friendliness, the **high.line** series is in line with the current "more sophisticated" market standard which is based on peripheral or centrifugal pumps.

The efficient ones!

The **eco.line**, with its peripheral impeller and highly efficient centrifugal pumps, in combination with speed control, sets new standards in the market in terms of efficiency and ease of use.

The flexible ones!

The **flex.line** allows a high degree of freedom in unit configuration. Customer requirements can be met individually from a comprehensive modular system.

base.line



THE INEXPENSIVE ONES!

The base.line range temperature control units are our investment-cost-optimised standard units for an economical temperature control with water at temperatures up to **180 °C** and flow rates up to **200 l/min**. They offer a **heating capacity of between 6 and 36kW**.

The base.line unit with its simple operation keyboard display is the preferred solution for many applications with an excellent price/performance ratio.

»Excellent price/
performance ratio«

»All-in-one solution for
global deployment«

For individualisation, among other things, different interfaces, individual colouring and labelling, mounting on rubber buffers or rails instead of rollers and other useful options are offered.

The basic equipment includes the microprocessor basicControl with display of set and actual temperatures, automatic replenishment, automatic mold draining, an energy-saving continuous heating control and much more.

AT A GLANCE...

- Extremely easy to operate
- 7-segment-display and membrane keypad
- High level of reliability
- Indirect cooling via heat exchangers
- Low investment costs
- Peripheral pump technology

THE RANGE



i-TEMP COMPACT cd base
(directly cooled)
TCU [water]
95 °C



i-TEMP COMPACT ci base
(indirectly cooled)
TCU [water]
95 °C, 140 °C,
160 °C, 180°C



i-TEMP COMPACT ct base
(indirectly cooled)
TCU [oil]
130 °C



i-TEMP COMPACT cw base
(indirectly cooled)
Cooling unit [glycol-free water]
0 to 25 °C

high.line



**COMPLETE WITH A
10 YEAR GUARANTEE
ON HEATING ELEMENTS**

THE INDIVIDUALS!

In a modern industrial design, the high.line range stands for high-quality but affordable technology, high availability, ease of operation and ease of service.

The temperature control units of the high.line are our investment-cost-optimised standard units for an economical temperature control with water at temperatures up to **180 °C** and flow rates up to **200 l/min** and heating capacity between **9 and 36kW**.

»with peripheral impeller or centrifugal pumps in terms of efficiency and ease of operation«

For customisation, among other things, different interfaces, individual colouring and labelling, mounting on rubber buffers or rails instead of rollers and other useful options are offered.

The high.line and eco.line series with the innovative compactControl controller is equipped with a fast 32-bit processor.

»Intuitive user interface and user-friendly menu navigation«

The basic equipment includes the microprocessor control basicControl with display of set and actual temperatures, automatic replenishment, automatic mould draining, an energy-saving continuous heating control and much more.

AT A GLANCE...

- Extremely easy to operate
- 7" logotherm touch display
- Multi-touch functions
- High level of reliability
- Direct cooling or indirect cooling using heat exchangers
- Peripheral impeller or centrifugal pump technology

THE RANGE



i-TEMP COMPACT cd high
(directly cooled)
TCU [water]
95 °C



i-TEMP COMPACT ci high
(indirectly cooled)
TCU [water]
95 °C, 140 °C, 160 °C, 180 °C



**i-TEMP COMPACT ci high with
itd distributor**
(indirectly cooled)
TCU [water]
95 °C, 140 °C, 160 °C

eco.line

NEW



THE EFFICIENT ONES!

Our eco.line temperature control unit is currently the most efficient integrated temperature control unit on the market.

They are operating cost-optimised and therefore consistently designed for sustainability, achieving up to 92% reduction in carbon emissions.

They are suitable for economical temperature control with water at temperatures up to **180°C** and **flow rates up to 230 l/min**, with a heating capacity between **9 and 36 kW**.

**COMPLETE WITH A
10 YEAR GUARANTEE
ON HEATING ELEMENTS**

**UP TO 92% REDUCTION
IN CARBON EMISSIONS**

»Efficient pumps, speed control and high operating convenience are standard«

With its efficient peripheral impeller and highly efficient centrifugal pumps, each combined with speed control and pump energy consumption display, this appliance line sets new standards in the market in terms of efficiency and ease of use.

The pump efficiency module (PEM), which is already included as standard for the eco.line range, offers various options for setpoint specification for controlling the speed.

Customers prefer to use the control according to the temperature difference between the circulation medium supply flow and the circulation medium return flow. Alternatively, specifying the flow rate as an absolute value in L/min or as a percentage value of the speed are available as an option.

AT A GLANCE...

- 7" multi-touch display
- Stainless steel "longlife" heating cartridge
- Highly efficient centrifugal pump technology with PEM with speed control
- Stainless steel tank (at 95°C) otherwise design without tank for minimum oxygen pick-up
- Medium-wetted parts made of corrosion-resistant materials
- State-of-the-art connectivity with OPU-UA

THE RANGE



i-TEMP COMPACT cd eco
(directly cooled)
TCU [water]
95 °C



i-TEMP COMPACT ci eco
(indirectly cooled)
TCU [water]
95 °C, 140 °C,
160 °C, 180°C



**i-TEMP COMPACT cd/ ci eco with
itd distributor**
(direct/ indirect cooling)
TCU [water]
95 °C, 140 °C, 160 °C

flex.line



THE FLEXIBLE ONES!

In the flex.line series, the temperature controller can be individually and flexibly configured on request with extensive features and numerous options.

They are suitable for economical temperature control with water at temperatures up to **200°C** and **flow rates up to 350 l/min**, with a heating capacity between **0 and 72 kW**.

»One step ahead
with innovations«

»High reliability, maximum
operating cost savings &
short delivery times for
modular concepts«

On the basis of an extensive and standardised modular system, we can respond flexibly to individual customer requirements with an outstanding price/performance ratio. The modular concept also enables short delivery times for freely configured temperature control units.

AT A GLANCE...

- Extremely easy to operate
- 7" multi-touch display
- Medium water or oil
- Direct cooling or indirect cooling using heat exchangers
- Highly efficient centrifugal pump technology
- Pump efficiency module PEM (optional)

THE RANGE



i-TEMP wd flex
(directly cooled)
TCU [water]
140 °C



i-TEMP wi flex
(indirectly cooled)
TCU [water]
160°C



i-TEMP wh flex
(indirect cooling)
TCU [water]
200 °C

flex.line

TEMPERATURE CONTROLLERS FOR HIGHEST DEMANDS UP TO 430°C

ELECTRIC HEATING CAPACITIES FROM 9 TO 360kW
STEAM HEATING CAPACITIES UP TO 1600kW
COOLING CAPACITIES FROM 92 TO 1600kW



The i-Temp flex.line range uses heat transfer oil as the circulating medium for temperatures up to 430°C.

Decades of experience in the construction of high temperature fluid temperature controllers makes ICS Cool Energy the preferred partners of many clients that require high quality reliable plant.

Depending on the process application and the media present on site, heating and cooling can be executed in different ways. For example, if a primary circuit with gas or heating oil is already installed or desired, the i-Temp tt/th range can be configured to heat or cool directly using the on-site ring main and site utilities as required.

Designed specifically for applications requiring high temperatures, the tt/th series uses low watts/cm² heating elements resulting in low film temperatures at normal flow rates, flow monitoring is built into the system which sets off an alarm if the flow rate becomes too low.

«Condition monitoring for maximum sustainability»

AT A GLANCE...

- Logotherm 7-inch multi-touch display
- Stainless steel "longlife" heating cartridge
- Durable and highly efficient centrifugal pump
- Pump speed control (PEM) option
- "Tankless" unit for minimum oxygen intake
- Splash proof control cabinet acc. to IP 54
- Analogue pump and system pressure display
- Interface port integrated in the rear of the control cabinet (e.g. for optional interface analogue, serial, Profibus, Profinet, or OPC UA)
- Cold oil receiver in order to prevent air-oxygen ingress (tt and th units only)

THE RANGE



i-TEMP tt flex
 (indirect cooling)
 TCU [oil]
 300°C



i-TEMP th flex
 (indirect cooling)
 TCU [oil]
 350°C







i-TEMP th flex
 (indirect cooling)
 TCU [oil]
 430°C

TAKE CONTROL...

PUMP EFFICIENCY MODULE (PEM) IS AVAILABLE AS STANDARD FOR MODELS IN THE ECO.LINE RANGE, AND AN OPTIONAL EXTRA WITH THE FLEX.LINE RANGE.

The intelligent add-on for logotherm with pump efficiency module (PEM) makes it easy to keep an eye on the complete energy management.

Thanks to the unique usability, all essential efficiency data are visualised and individually retrievable with one click on the leaf icon:

- 
Balance: Energy saving (kW) of the last 24 hours
- 
Trend: Energy saving (kW) in the course of the last hour.
- 
Current: Required and saved power (kW), CO₂ and cost savings.
- 
Total: Total efficiency data saved over the entire runtime (assigned to the process).

»The essential information at a glance«



»One step ahead with innovations«

Example: Display



DESIGNED TO MEET YOUR NEEDS

ICS Cool Energy have carried out numerous projects for a variety of applications around the world. Dealing with customer specific systems our engineering team have the ability to adapt units to tailor temperature control to any site application need with a keen price/performance ratio.

Working closely with a wide variety of industries, we have extensive knowledge and experience in industrial process applications including plastics moulding, rubber extrusion, food processing, chemical and pharmaceutical practices.



PLASTICS & COMPOSITE PROCESSING

The i-Temp Max range is perfect for plastics moulding processes as units offer accurate temperature management ensuring continuous productivity. With temperatures available up to 350°C, moulding processes are kept consistent and reliable to produce a high quality end product.



FOOD PROCESSING

Having worked closely with food and beverage manufacturers, ICS Cool Energy has developed food safe equipment with specialist capabilities including jacketed vessels, stainless steel units (IP65 rated) and specialist diagnostics. The ICS Cool Energy advanced controllers offer special recipe control for the user to analyse process productivity in real time to ensure food safety standards and high quality food products.



RUBBER EXTRUSION

Many rubber extrusion processes require separate temperature controlled zones in order to manage various parts of the production process. The i-Temp Plus range can be tailored to cater for this need with bespoke built products offering zoned heating. Furthermore, with connectivity to a site's central control panel, processes can accurately be managed.



CHEMICAL & PHARMACEUTICAL

ICS Cool Energy understands precision is key within laboratories and clean rooms which is why the i-Temp Plus range has the ability to expand its capabilities to cater for unique site requirements. Understanding the regulated and controlled levels within the pharmaceutical industry has allowed ICS Cool Energy to develop the high level of expertise and a wealth of 'know how'.



OEM MANUFACTURING

ICS Cool Energy is a preferred partner of many machine manufacturers and processors providing solutions for temperature control and compact integrated systems. These are ideal for integration into the OEM's machinery and equipment which is configured to meet the customer's application requirements. Temperature control technology is integrated as system component into machinery for plastics, food and pharmaceutical processing in plant engineering applications.

ENERGY EFFICIENCY EXAMPLES

A hands-on example of a standard Temperature Control Unit application with a customised project, different scenarios could be compared under production conditions with the flow rate at 85l/min and heating capacity at 27kW:

1

Technology used so far

Device of a market facilitator
with unregulated peripheral impeller pump

Annual electricity consumption
in a three-shift operation: 14,495 kWh

2

i-Temp high.line

high.line series with unregulated peripheral impeller
pump

Annual electricity consumption
in a three-shift operation: 12,756 kWh

3

i-Temp eco.line

eco.line series with centrifugal pump without
control mode

Annual electricity consumption
in a three-shift operation: 10,436 kWh

4

i-Temp eco.line

eco.line series with centrifugal pump in control
mode (ΔT control)

Annual electricity consumption
in a three-shift operation: 1,160 kWh

**SAVINGS WITH
i-TEMP eco.line:**

**13,335 kWh/year = 92 %
or 9,76 t CO₂/year**

PROCESS TEMPERATURE CONTROL SPECIALISTS.



KEEPING INDUSTRY RUNNING

Rental, equipment & service
 Consultation & technical expertise approach
 Emergency support 24/7 every day of the year



EMISSION CRITICAL

Reducing carbon by One Gigaton by 2030
 Free Cooling & Heat Recovery products
 Energy Efficiency enhancements



FLEX

Zero capital membership solution
 Flex capacity to pay only for what you need
 Built in contingency planning

ICS Cool Energy are your total support specialists in temperature control solutions from -70°C to 350°C for critical and manufacturing processes. We offer a full range of services to keep your industry running. This includes equipment hire from the largest hire fleet in the UK, capital equipment sales, energy efficiency upgrades, planned preventative maintenance and emergency breakdown support across all industries and facilities throughout the UK.

Since 1989, we've been providing technical advice and solutions to leading companies, world-wide – helping them to meet compliance, reduce their energy consumption, maintenance and operative costs.

ICS COOL ENERGY UK COVERAGE

- ICS UK HQ
- ICS Depots
- ICS Offices
- 70+ Service Technicians with Van Stock
- £15K Van Stock
- Further stock held at our depots around the UK
- 50+ Sales Engineers
- 30+ Depot Repair Engineers
- £50M+ 500MW Fleet
- Over 100,000 projects completed
- 24/7, 365 Emergency Support

For Service, Breakdown Support
 & Emergency Rental:
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ICSCOOLENERGY.COM



**PROCESS TEMPERATURE CONTROL SPECIALISTS.
 SALES. HIRE. SERVICE.**

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