

i-TEMP

NEXT GENERATION TEMPERATURE CONTROL UNITS

Water and Oil 9 - 360kW



A man in a high-visibility yellow and black safety vest is working on a complex industrial machine. The machine has various pipes, valves, and a large red handwheel. The background is a blue-tinted industrial setting with metal railings and structures.

TEMPERATURE CONTROL SPECIALISTS KEEPING INDUSTRY RUNNING FOR 30 YEARS

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, part of Ingersoll Rand Inc. is a process temperature control specialist. 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 -40°C to 350°C for your applications.

For over 30 years' 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.

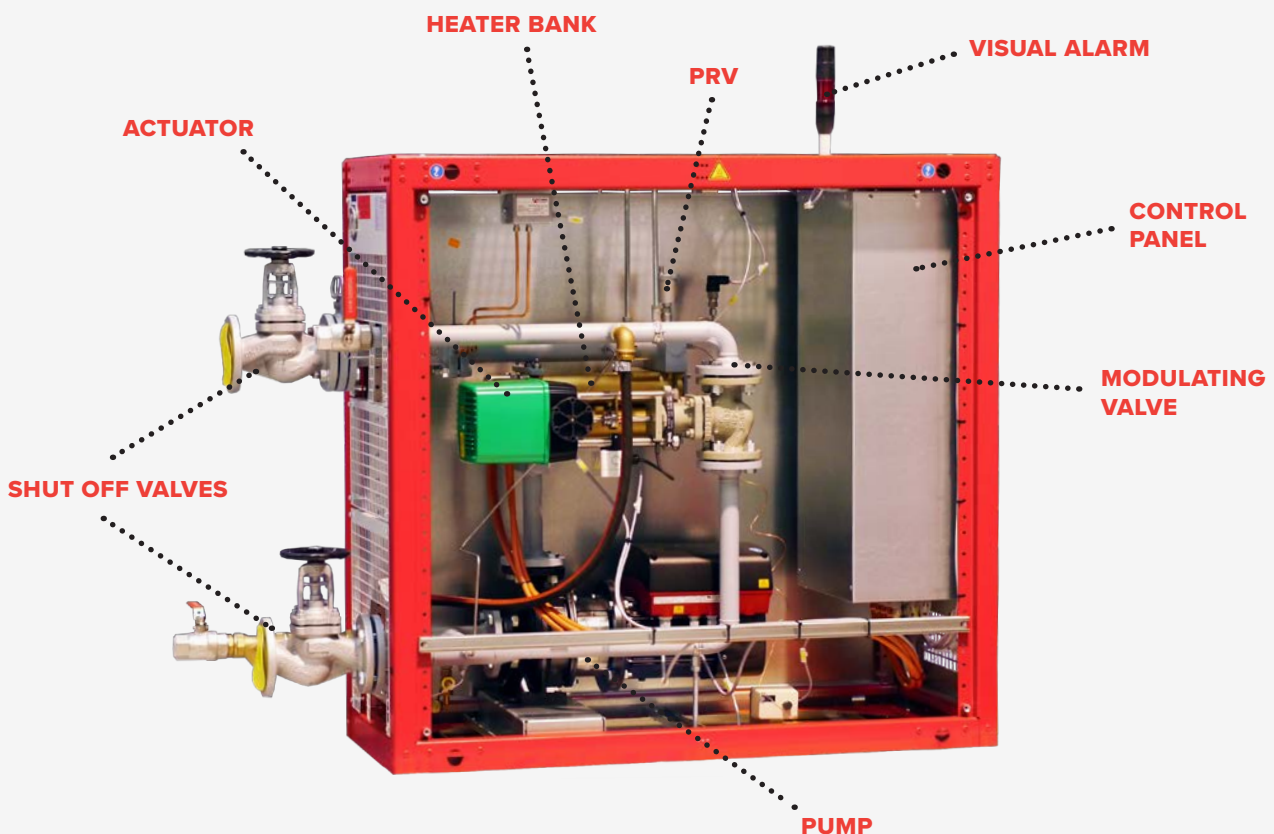
WE MAKE IT WORK

FULLY PACKAGED TCUs

i-TEMP RANGE -20°C to 350°C | 4 to 360kW

The i-Temp range of temperature control units 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 350°C.



DESIGNED TO MEET YOUR NEEDS

ICS Cool Energy has 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, ICS Cool Energy 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 Plus 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.



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'.

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.



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.

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.



TAKING CONTROL

C8 ADVANCED CONTROLLERS

Confidence in your process, with the knowledge that your temperature control unit meets a wider criteria which is key in achieving a stable end product and process.

- Graphical display of up to three temperature inputs, flow rate, cooling/heating function as a percentage, and the temperature difference across your process
- Reduce potential downtime and wastage by setting a range of process alarm limits to ensure early detection of fluctuations in your process
- Save your preferred settings to SD card, export to .csv file, or upload settings onto other ICS Cool Energy TCUs for the ultimate consistency and repeatability in your process
- Achieve fully automated heating and cooling cycles at a given ramp rate ($^{\circ}\text{C}$ per sec/min) which can be saved and re-used
- Real time clock (7 day timer)
- Real time graph display (trending)
- Password protected (3 levels: Operator, Manager and Manufacturer)
- Ethernet as standard



- Alarms log
- Selectable languages (14 available)
- Service due alarm
- Full help menu built into controller

The C8 basic controller is featured as standard on our i-Temp and i-Temp max 'e' units, with advanced units utilising the C8 advanced controller. The easy to use C8 advanced controller with LCD screen provides process data at your fingertips for quick analysis, so you can be confident that your system is reaching the correct temperatures when your process requires it.



- ✓ Self-optimising C8 advanced controller with high control accuracy
- ✓ Simultaneous display of set and actual values
- ✓ Measuring, indication and monitoring of the flow rate
- ✓ Continuous monitoring of process parameters
- ✓ Storage and recall of process parameters with memory card
- ✓ Optional interfaces available - analog 0-10 V, 0/4-20mA, serial RS232, RS 422, RS 485, TTY, Profibus, Profinet

C9 ADVANCED CONTROLLERS

The new generation of i-Temp Compact machines come equipped with the C9 version of controllers. Our 'e' units come with the basic controller, which provides the existing benefits of the C8 range but with the added benefits of a faster processor coupled with new design to improve access to the unit.

The i-Temp compact 't' range comes with the C9 advanced controller, which utilises a 7" touch screen and intuitive use interface to allow for easier monitoring and adjustment. The more powerful processor in the C9 advanced range gives the unit the ability to utilise full data logging, giving users more information about their process than ever before.

C9 units also utilise the Euromap 82.1 specification, which provides a standardised interface between temperature control devices and their peripherals. This standardisation ensures that the units will be able to interface with your existing equipment with minimal interference.



CONTROL FEATURES

● = Standard / ○ = Option / – = not available/ Values in () optional

| Features | C8 ADVANCED | C9 ADVANCED |
|---|-------------|-------------------|
| Full colour touch screen display | 3½" | 7" |
| Selected languages | ● | ● |
| Multiple units can be operated only via one display | ● | ● |
| Logbook for alarms | ● | ● |
| Ramp programme | ● | ● |
| Flow monitoring | ● | ● |
| Trending | ● | Advanced trending |
| 7 Day timer | ● | ● |
| Return temperature monitoring | ● | ● |
| Service due alarm | ● | ● |
| Temperature limit values | ● | ● |
| Remote access to HMI via VNC | ● | ● |
| Data logging | ● | Advanced logging |
| Optional interfaces analogue 0-10 V, 0/4-20mA, serial RS232, RS 422, RS 485, TTY, Profibus, Profinet. | ● | ● |
| Euromap 82. L support | | ● |
| Remote access via internal web page | | ● |

THE FULLY PACKAGED i-TEMP RANGE INCLUDES:

i-TEMP COMPACT

C9 CONTROLLER

Indirect and direct water Temperature Control Units up to 180°C.

i-TEMP COMPACT cd

HEATING CAPACITIES FROM 6 TO 18KW
COOLING CAPACITIES FROM 52 TO 195KW

Temperature controllers for water direct cooling up to 95°C, 120°C, 140°C.

i-TEMP COMPACT ci

HEATING CAPACITIES FROM 6 TO 36KW
COOLING CAPACITIES FROM 23 TO 250KW

Temperature Control Units for water indirect cooling up to 95°C, 120°C, 140°C and 160°C using an open tank up to 95°C and as a closed system up to 160°C.



i-TEMP COMPACT cd Up to 120°C | 9 to 18kW

Temperature controllers water indirect 95°C and 120°C

| Model i-Temp | i-Temp cd 90e | i-Temp cd 90t | i-Temp cd 120t |
|---|-----------------|-----------------|-----------------|
| Fluid | water | water | water |
| Temperature max. (°C) | 95 | 95 | 120 |
| Pump capacity max. (l/min/bar) | 60/3.8 (6.0) | 70/4.7 | 70/4.7 |
| Heating capacity (kW) | 6-9 | 18 | 18 |
| Cooling | direct | direct | direct |
| Cooling capacity (kW) ¹ | 52 | 140 | 195 |
| Weight (kg) | 44 | 50 | 50 |
| Process circuit supply and return connections | G½" | G¾" | G¾" |
| Cooling water supply and return connections | G¼" | G½" | G½" |
| Dimensions in mm (L x W x H) | 675 x 350 x 608 | 954 x 506 x 747 | 954 x 506 x 747 |

i-TEMP COMPACT ci Up to 180°C | 9 to 36kW

Temperature controllers water indirect 95°C, 140°C, 160°C and 180°C

| Model i-Temp | i-Temp ci 90e | i-Temp ci 140e | i-Temp ci 160e | i-Temp ci 180e | i-Temp ci 90t 9 | i-Temp ci 90t 18 | i-Temp ci 90t 27 | i-Temp ci 90t 36 | i-Temp ci 140t | i-Temp ci 140t 18 | i-Temp ci 160t | i-Temp ci 180t |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|-----------------|-------------------|-----------------|-----------------|
| Fluid | water | water | water | water | water | water | water | water | water | water | water | water |
| Temperature max. (°C) | 95 | 140 | 160 | 180 | 95 | 95 | 95 | 95 | 140 | 140 | 160 | 180 |
| Pump capacity max. (l/min/bar) | 60/3.8 (6.0) | 60/5.5 | 60/5.5 | 60/5.5 | 60/3.8 (6.0) | 75/5.5 | 170/4.7 | 170/4.7 | 60/5.5 | 60/5.5 | 60/5.5 | 60/5.5 |
| Heating capacity (kW) | 9 | 9 | 9 | 9 | 9 | 18 | 27 | 36 | 9 | 12/18 | 9 | 9 |
| Cooling | indirect | indirect | indirect | indirect | indirect | indirect | indirect | indirect | indirect | indirect | indirect | indirect |
| Cooling capacity (kW) ¹ | 23 (42) | 40 | 40 | 40 | 23 (42) | 50 | 250 | 250 | 40 | 40 | 40 | 40 |
| Weight (kg) | 37 | 52 | 56 | 56 | 46 | 95 | 100 | 100 | 50 | 95 | 50 | 50 |
| Process circuit supply and return connections | G½" | G½" | G½" | G½" | G½" | G¾" | G1" | G1" | G½" | G¾" | G½" | G½" |
| Cooling water supply and return connections | G¼" | G¼" | G¼" | G¼" | G¼" | G½" | G¾" | G¾" | G¼" | G½" | G¼" | G¼" |
| Dimensions in mm (L x W x H) | 675 x 350 x 608 | 675 x 350 x 608 | 675 x 350 x 608 | 675 x 350 x 608 | 675 x 350 x 608 | 954 x 506 x 747 | 954 x 506 x 747 | 954 x 506 x 747 | 675 x 350 x 608 | 954 x 506 x 747 | 675 x 350 x 608 | 675 x 350 x 608 |



Stock available immediately



Interface options including ethernet and profibus



Fast customisation of standard models



Data capture to SD card



Advanced controller with LCD screen

i-TEMP wd

C8 CONTROLLER

**HEATING CAPACITIES FROM 6 TO 72kW
COOLING CAPACITIES FROM 47 TO 600kW**

Temperature control units for water heating with direct cooling up to 140°C and 150°C

Direct cooling is advantageous when a high cooling capacity is required directly at low temperature differences between cooling water and the circulation medium. In this case, the cooling water will be fed without temperature loss into the circulation circuit. Water circuits are designed as a closed system which allows pressurised heating of up to 150°C.

Depending on the operating condition, the heat will either be removed from the application by cooling or transferred to the application by heating.

Heat transfer occurs by the circulation of water which is transferred through to the application by an efficient pump. A special sensor monitor is featured as standard within the i-Temp wd which measures the current temperature and the intelligent microprocessor controller compares the measured value with the adjusted set value which switches the heating and cooling accordingly.



i-TEMP wh

C8 CONTROLLER

**HEATING CAPACITIES FROM 9 TO 72kW
COOLING CAPACITIES FROM 32 TO 96kW**

Temperature control units for pressurised water up to 200°C

The i-Temp wh water heaters have an advantage over oil heat transfer units, especially if large amounts of heat needs to be extracted from small cooling surfaces. Particularly for injection moulding and some extrusion processes, it is advantageous as it uses pressurised hot water instead of oil because the heat transfer capability is more effective - typically by a factor of three.

Pump flow rates and the surface area of tooling in contact with the product can also be reduced accordingly at the design stage if it is known that water is to be used, this leads to a more efficient system in terms of power and fluid cost. The use of water as a fluid of heat transfer has a further advantage with the amount of liquid which is circulated by the pump and is reduced by a factor of two compared to three with the transfer of heat using oil.













I-TEMP wd Up to 150°C | 6 to 72kW
Temperature controllers water 140°C and 150°C

| Model i-Temp | i-Temp wd 60 | i-Temp wd 100 | i-Temp wd 150 | i-Temp wd 250 | i-Temp wd 400 | i-Temp wd 500 |
|--|-----------------|--|--------------------------------------|--------------------------------------|------------------------|------------------------|
| Fluid | water | water | water | water | water | water |
| Temperature max. (°C) | 140 | 140 (150) | 140 (150) | 140 (150) | 140 (150) | 140 (150) |
| Type of operating pump | peripheral pump | multi stage stainless steel centrifugal pump | two-stage stainless centrifugal pump | two-stage stainless centrifugal pump | centrifugal pump | centrifugal pump |
| Pump capacity max. (l/min/bar) | 45/6.0 | 90/6.0 | 200/5.1 | 230/5.5 | 420/3.6 | 500/4.2 |
| Heating capacity, selectable (kW) | 6 | 9/18/27/36/45/54 | 9/18/27/36/45/54/63/72 | 9/18/27/36/45/54/63/72 | 9/18/27/36/45/54/63/72 | 9/18/27/36/45/54/63/72 |
| Cooling | direct | direct | direct | direct | direct | direct |
| Cooling capacity max. (kW) ¹ | 47 | 100 | 200 | 270 | 460 | 600 |
| Process supply and return connections | G¾" | G1" | G1¼" | G1½" | DN 50 | DN 65 |
| Cooling water supply and return connections ² | G½" | G1½", ¾" | G½", ¾", 1", 1¼" | G½", ¾", 1", 1¼" | G¾", 1", 1¼", 1½", 2" | G¾", 1", 1¼", 1½", 2" |
| Housing length L (mm) ³ | 210 | 990 (1120/1465) | 990 (1120/1465) | 990 (1120/1465) | 1465 | 1465 |
| Housing width W (mm) ³ | 450 | 430 (510/570) | 430 (510/570/695) | 430 (510/570/695) | 570 (695) | 570 (695) |
| Housing height H (mm) ³ | 520 | 735 (935/1275) | 735 (935/1275) | 735 (935/1275) | 1275 | 1275 |
| Weight min. depending on the specification (kg) | 35 | 120 | 150 | 160 | 200 | 250 |

I-TEMP wi Up to 200°C | 9 to 54kW
Temperature controllers water up to 200°C

| Model i-Temp | i-Temp wh 60 | i-Temp wh 90 | i-Temp wh 120 |
|--|--------------|--------------|------------------|
| Fluid | water | water | water |
| Temperature max. (°C) | 200 | 200 | 200 |
| Pump capacity max. (l/min/bar) | 60/5.0 | 80/5.0 | 120/5.0 |
| Heating capacity (kW) | 9 (18/27) | 18 (9/27/36) | 27 (18/36/45/54) |
| Cooling | indirect | indirect | indirect |
| Cooling capacity max. (kW) ¹ | 32 (64) | 40 (80) | 48 (96) |
| Process supply and return connections | DN 25 | DN 32 | DN 32 |
| Cooling water supply and return connections | G½" | G½" | G½" |
| Housing length L (mm) ² | 1320 | 1320 | 1320 (1465) |
| Housing width W (mm) ² | 500 | 570 | 570 |
| Housing height H (mm) ² | 1275 | 1275 | 1275 (1515) |
| Weight min. depending on the specification (kg) ³ | 95 | 105 | 120 |

-  Self optimising C8 advanced controller with high control accuracy
-  Simultaneous display of set and actual values
-  Measuring, indication and monitoring of the flow rate (optional)
-  Integrated operating and service information
-  Storage and recall of process parameters with memory card

-  Solid State Relays - energy saving control
-  Continuous monitoring of process parameters
-  Optional connection for external probe (PT100 or Fe-CuNi)
-  Splash proof electrics
-  Optional interfaces at front panel (analogue 0-10v, 0/4-20mA; serial RS 232, RS 422, RS 485, TTY, Profibus, Profinet, Devicenet)

i-TEMP wi

C8 CONTROLLER

**HEATING CAPACITIES FROM 9 TO 72kW
COOLING CAPACITIES FROM 100 TO 600kW**

Temperature control units for water indirect cooling up to 95°C, 140°C, 150°C and 160°C using an open tank up to 95°C and as a closed system up to 160°C.

The i-Temp wi collection has been developed to offer a large performance range by means of modular design with various combinations of heating and cooling elements which cater for a wide variety of applications. Providing complete reliability, highly accurate control, ease of handling and a favourable cost/performance ratio, these versatile heaters offer any industrial process application a consistent yet flexible temperature control solution.

Furthermore all units feature intelligent controllers as standard offering accurate temperature measurement, indication and monitoring.



i-TEMP tt/th

C8 CONTROLLER

**HEATING CAPACITIES FROM 8 TO 54kW
COOLING CAPACITIES FROM 40 TO 450kW**

Temperature control units for oil and thermal oil heat transfer and circulation up to 180°C, 300°C and 350°C.

Designed specifically for applications requiring high temperatures, the to/tt and 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.



I-TEMP wi Up to 160°C | 9 to 72kW

Temperature control units water indirect 95°C, 140°C, 150°C and 160°C

| Model i-Temp | i-Temp wi 100 | i-Temp wi 150 | i-Temp wi 250 | i-Temp wi 400 | i-Temp wi 500 |
|--|------------------|------------------------|------------------------|------------------------|------------------------|
| Fluid | water | water | water | water | water |
| Temperature max. (°C) | 140 | 140 (95, 150, 160) | | 140 (95, 150) | |
| Pump capacity max. (l/min/bar) | 70/4.7 | 200/5.1 | 230/5.5 | 420/3.6 | 500/4.2 |
| Heating capacity, selectable (kW) | 9/18/27/36/45/54 | 9/18/27/36/45/54/63/72 | 9/18/27/36/45/54/63/72 | 9/18/27/36/45/54/63/72 | 9/18/27/36/45/54/63/72 |
| Cooling | indirect | indirect | indirect | indirect | indirect |
| Cooling capacity (kW) ¹ | 100 | 200 | 270 | 460 | 600 |
| Process circuit supply and return connections ² | G1" | G1¼" | G1½" | DN 50 | DN 65 |
| Housing length L (mm) ³ | 990 (1120/1465) | 990 (1120/1465) | 990 (1120/1465) | 1465 | 1465 |
| Housing width W (mm) ³ | 430 (510/570) | 430 (510/570/695) | 430 (510/570/695) | 570 (695) | 570 (695) |
| Housing height H (mm) ³ | 935 (1275) | 935 (1035/1275) | 935 (1035/1275) | 1275 | 1275 |
| Weight min. depending on the specification (Kg) | 80 | 120 | 150 | 200 | 200 - 500 |

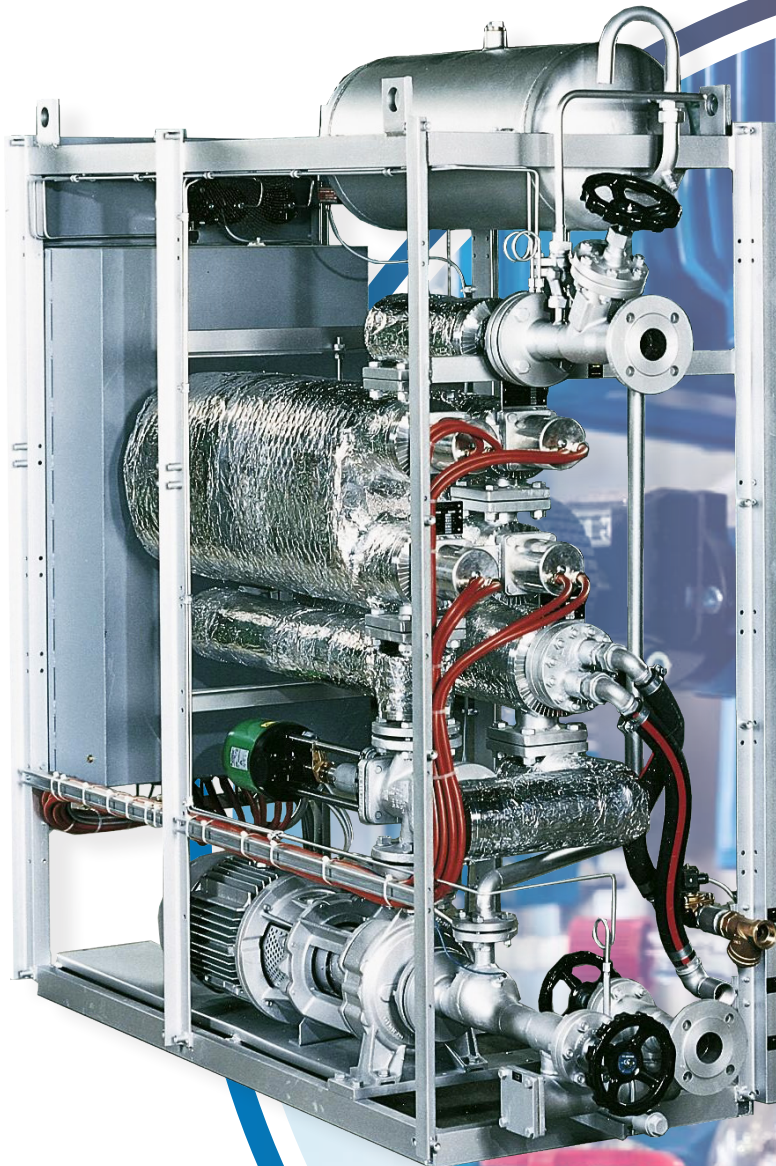
I-TEMP tt/th Up to 350°C | 4 to 54kW

Temperature controllers thermal oil 180°C, 300°C and 350°C

| Model i-Temp | i-Temp to 50 | i-Temp tt 50 | i-Temp tt 60 | i-Temp tt 100 | i-Temp tt 140 | i-Temp th 60 | i-Temp th 100 | i-Temp th 140 |
|--|----------------|----------------|----------------|------------------------|----------------------------|----------------|----------------|----------------|
| Fluid | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil |
| Temperature max. (°C) | 180 | 300 | 300 | 300 | 300 | 350 | 350 | 350 |
| Pump capacity max. (l/min/bar) | 90/6.2 | 60/6.0 | 60/6.0 | 100/8.0 | 150/7.0 (200/5.6) | 60/6.0 | 100/8.0 | 150/7.0 |
| Heating capacity max (kW) | 8 | 4/6/8 | 9/13.5/18 | 9/12/18/27/36 | 12/18/27/ 36/45/54 | 3/6 | 6/9/12 | 9/18/27 |
| Cooling | water indirect | water indirect | water indirect | water indirect | water indirect | water indirect | water indirect | water indirect |
| Cooling capacity max. (kW) ¹ | 40 | 15/30 | 82/110/200 | 82/110/200/ 250/275 | 82/110/200/ 250/275/450 | 82/110 | 82/110/200 | 82/110/200 |
| Process circuit supply and return connections | DN 20 | G¾" | DN 25 | DN 25 | DN 32 | DN 25 | DN 25 | DN 32 |
| Cooling water supply and return connections ² | G½" | G½" | G½", ¾" | G½", ¾", 1" | G½", ¾", 1", 1¼" | G½" | G½", ¾" | G½", ¾" |
| Housing length L (mm) ³ | 1036 | 850 | 1320 | 1320 | 1320 | 1320 | 1320 | 1320 |
| Housing width W (mm) ³ | 295 | 295 | 500 | 570 | 570 | 500 | 570 | 570 |
| Housing height H (mm) ³ | 725 | 725 | 1275 | 1275 | 1275 | 1275 | 1275 | 1275 |
| Weight min., depending on the specification (kg) | 75 | 75 | 210 | 310 | 410 | 210 | 310 | 410 |

-  Self optimising C8 advanced controller with high control accuracy
-  Solid State Relays - energy saving control
-  Simultaneous display of set and actual values
-  Continuous monitoring of process parameters
-  Measuring, indication and monitoring of the flow rate (optional)
-  Optional connection for external probe (PT100 or Fe-CuNi)
-  Integrated operating and service information
-  Splash proof electrics
-  Storage and recall of process parameters with memory card
-  Optional interfaces at front panel (analogue 0-10v, 0/4-20mA; serial RS 232, RS 422, RS 485, TTY, Profibus, Profinet, Devicenet)

HEATER TRANSFER OIL - TEMPERATURE CONTROLLERS FOR HIGHEST DEMANDS UP TO 350°C



i-TEMP MAX TT/TH COLLECTION

This collection of units uses heat transfer oil as the circulating medium for temperatures up to 350°C.

The higher the process temperature, the higher the technical requirements are in the unit design.

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.

CAPACITIES ARE UP TO 360kW WITH ELECTRICAL HEATING AND 1600kW WITH STEAM HEATING

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 Max 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.



DISCOVER THE FLEXIBILITY OF I-TEMP MAX

i-TEMP MAX

Indirect and direct water, oil and thermal oil TCUs up to 350°C.

ELECTRIC HEATING CAPACITIES FROM 9 TO 360kW

STEAM HEATING CAPACITIES UP TO 1600kW

COOLING CAPACITIES FROM 92 TO 1600kW



PILOT PLANT FLEXIBILITY

Built for pilot plant use to provide a wider range of heating and cooling temperatures than a large scale production plant, offering greater flexibility when experiments are being carried out.



MODULAR DESIGN

Tailor your i-Temp Plus to meet individual process requirements to achieve optimum performance and end products.



HYBRID CONTROL

Hybrid control offers flexibility to modern production requirements providing a closer control of temperatures while utilising the existing steam or oil ring main.



TOUCH SCREEN C9 ADVANCED CONTROLLER AS STANDARD / SIEMENS S7 PLC OPTIONAL

Technically advanced interface used to analyse process temperatures ensuring maximum productivity and visibility.





COMPATIBLE WITH OIL AND STEAM

Ensures a flexible, extended working temperature range to suit individual process needs.



FACTORY ACCEPTANCE TEST

Complete system test and trial in operating conditions before shipment.



SITE ACCEPTANCE TEST

Equipment is fully tested once commissioned on site.



PACKAGED UNIT

An all-in-one solution with all the components housed in a single unit whilst offering the modular flexibility of a custom solution.



I-TEMP MAX wi Up to 150°C | 12 to 360kW

| Model | i-Temp Max wi 5 | i-Temp Max wi 7 | i-Temp Max wi 8 | i-Temp Max wi 10 |
|---|---|--|--|--|
| Fluid | water | water | water | water |
| Temperature max. (°C) | 140 (150) | 140 (150) | 140 (150) | 140 (150) |
| Pump flow capacity max. (m³/hr) | 20 | 35 | 50 | 70 |
| Pump pressure max. Hm | 63 | 65 | 65 | 63 |
| Heating capacity, electric options (kW) | 12/24/30/ 36/48/60/72/ 84/90/96/120/ 150/180 | 15/30/45/ 60/90/120/ 150/180/210/ 240/270 | 15/30/45/60/ 90/120 /150/180/ 210/240/270 | x30/45/60/ 90/120/150/180 /210/240/270/ 300/360 |
| Heating capacity max, steam options (kW) | 62/98 | 162/270 | 270/410 | 410/605 |
| Cooling | Indirect | Indirect | Indirect | Indirect |
| Cooling capacity (kW) | Max 465 | Max 800 | Max 1150 | Max 1600 |
| Process circuit supply and return connections | DN 50 | DN 65 | DN 80 | DN 100 |
| Housing dimensions min. (l x w x h) (mm) | 1840 x 695 x 1720 | 1840 x 695 x 1720 | 1840 x 695 x 1720 | 2090 x 1070 x 1720 |
| Housing dimensions max. (l x w x h) (mm) | 1840 x 1320 x 2060 | 1840 x 1320 x 2265 | 2090 x 1320 x 2265 | 2090 x 1320 x 2505 |

I-TEMP MAX wh Up to 220°C | 12 to 360kW

| Model i-Temp | i-Temp Max wh 4 | i-Temp Max wh 5 | i-Temp Max wh 7 | i-Temp Max wh 8 | i-Temp Max wh 10 |
|---|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Fluid | water | water | water | water | water |
| Temperature max. (°C) | 180 (optional 200/220) | 180 (optional 200/220) | 180 (optional 200/220) | 180 (optional 200/220) | 180 (optional 200/220) |
| Pump - Flow capacity max m³/h | 12 | 20 | 35 | 50 | 70 |
| Pump - Pressure max Hm | 50 | 60 | 60 | 60 | 58 |
| Heating capacity, electric options (kW) | 12-120 | 12-180 | 15-270 | 270-410 | 410-605 |
| Cooling capacity max kW | 465 | 465 | 800 | 1150 | 1600 |
| Process circuit flow and return connections | DN40/PN40 | DN50/PN40 | DN65/PN40 | DN80/PN40 | DN100/PN40 |
| Housing dimensions Min. (L x W x H) | 1840 x 695 x 1720 | 1840 x 695 x 1720 | 1840 x 820 x 1070 | 1840 x 820 x 1720 | 2090 x 1320 x 1720 |
| Housing dimensions Max. (L x W x H) | 1840 x 1070 x 1960 | 1840 x 1070 x 1960 | 2090 x 1320 x 2165 | 2090 x 1320 x 2165 | 2340 x 1320 x 2405 |

I-TEMP MAX wd Up to 150°C | 12 to 360kW

| Model | i-Temp Max wd 5 | i-Temp Max wd 7 | i-Temp Max wd 8 | i-Temp Max wd 10 |
|---|---|--|--|--|
| Fluid | water | water | water | water |
| Temperature max. (°C) | 140 (150) | 140 (150) | 140 (150) | 140 (150) |
| Pump flow capacity max. Hm | 20 | 35 | 50 | 70 |
| Pump pressure max. Hm | 49/62 | 62 | 62 | 62 |
| Heating capacity, electric options (kW) | 12/24/30/ 36/48/60/72/ 84/90/96/120/ 150/180 | 15/30/45/ 60/90/120/ 150/180/210/ 240/270 | 15/30/45/ 60/90/120/ 150/180/210/ 240/270 | 30/60/90/ 120/150/180 /210/240/ 270/300/360 |
| Heating capacity max, steam options (kW) | 62/98 | 162/270 | 270/410 | 410/605 |
| Cooling | Direct | Direct | Direct | Direct |
| Cooling capacity (kW) | Max 465 | Max 800 | Max 1150 | Max 1600 |
| Process circuit supply and return connections | DN 50 | DN 65 | DN 80 | DN 100 |
| Housing dimensions min. (l x w x h) (mm) | 1840 x 695 x 1720 | 1840 x 695 x 1720 | 1840 x 695 x 1720 | 2090 x 1070 x 1720 |
| Housing dimensions max. (l x w x h) (mm) | 1840 x 1320 x 2060 | 1840 x 1320 x 2265 | 2090 x 1320 x 2265 | 2090 x 1320 x 2505 |

I-TEMP MAX tt/th Up to 150°C | 12 to 360kW

| Model | i-Temp Max tt 4 | i-Temp Max tt 5 | i-Temp Max tt 7 | i-Temp Max tt 8 | i-Temp Max tt 10 | i-Temp Max th 4 | i-Temp Max th 5 | i-Temp Max th 7 | i-Temp Max th 8 | i-Temp Max th 10 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Fluid | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil | thermal oil |
| Temperature max. (°C) | 300 | 300 | 300 | 300 | 300 | 400 | 400 | 400 | 400 | 400 |
| Pump flow capacity max. (m³/hr) | 12 | 20 | 35 | 45 | 70 | 12 | 20 | 35 | 45 | 70 |
| Pump pressure max. Hm | 54 | 60 | 61 | 61 | 61 | 54 | 60 | 61 | 61 | 61 |
| Heating capacity, electric options (kW) | 12-120 | 12-180 | 15-270 | 15-270 | 30-360 | 9-54 | 9-72 | 12-96 | 15-180 | 30-300 |
| Heating capacity, Steam options (kW) | 50-78 | 50-78 | 130-190 | 190-330 | 330-480 | 50-78 | 50-78 | 130-190 | 190-330 | 330-480 |
| Cooling capacity max. (kW) | 92 | 148 | 272 | 392 | 586 | 92 | 148 | 272 | 392 | 586 |
| Process circuit supply and return connections | DN40 / PN40 | DN50 / PN40 | DN65 / PN40 | DN80 / PN40 | DN100 / PN40 | DN40 / PN40 | DN50 / PN40 | DN65 / PN40 | DN 80 / PN40 | DN100 / PN40 |
| Housing dimensions Min. (l x w x h) (mm) | 1840 x 695 x 1720 | 1840 x 695 x 1720 | 1840 x 820 x 1070 | 1840 x 820 x 1720 | 2090 x 1320 x 1720 | 1840 x 695 x 1720 | 1840 x 695 x 1720 | 1840 x 820 x 1070 | 1840 x 820 x 1720 | 2090 x 1320 x 1720 |
| Housing dimensions Max. (l x w x h) (mm) | 1840 x 1070 x 1960 | 1840 x 1070 x 1960 | 2090 x 1320 x 2165 | 2090 x 1320 x 2165 | 2340 x 1320 x 2405 | 1840 x 1070 x 1960 | 1840 x 1070 x 1960 | 2090 x 1320 x 2165 | 2090 x 1320 x 2165 | 2340 x 1320 x 2405 |

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