ics cool energy

PACKAGED PROCESS TEMPERATURE CONTROL SOLUTIONS




FULLY PACKAGED CHILLERS & TEMPERATURE CONTROL UNITS

-20°C to 400°C | 1 to 469kW

All images used in this brochure are for illustrative purposes. Please check with your Sales Engineer in relation to specific units.

WE MAKE IT WORK

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 400°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.

ECODESIGN COMPLIANCE

Any new industrial cooling equipment must meet new minimum energy performance standards (MEPS). Process chillers must meet new Seasonal Energy Performance Ratio (SEPR) metrics and comfort chillers must meet new Seasonal Energy Efficiency Ratio (SEER) values.

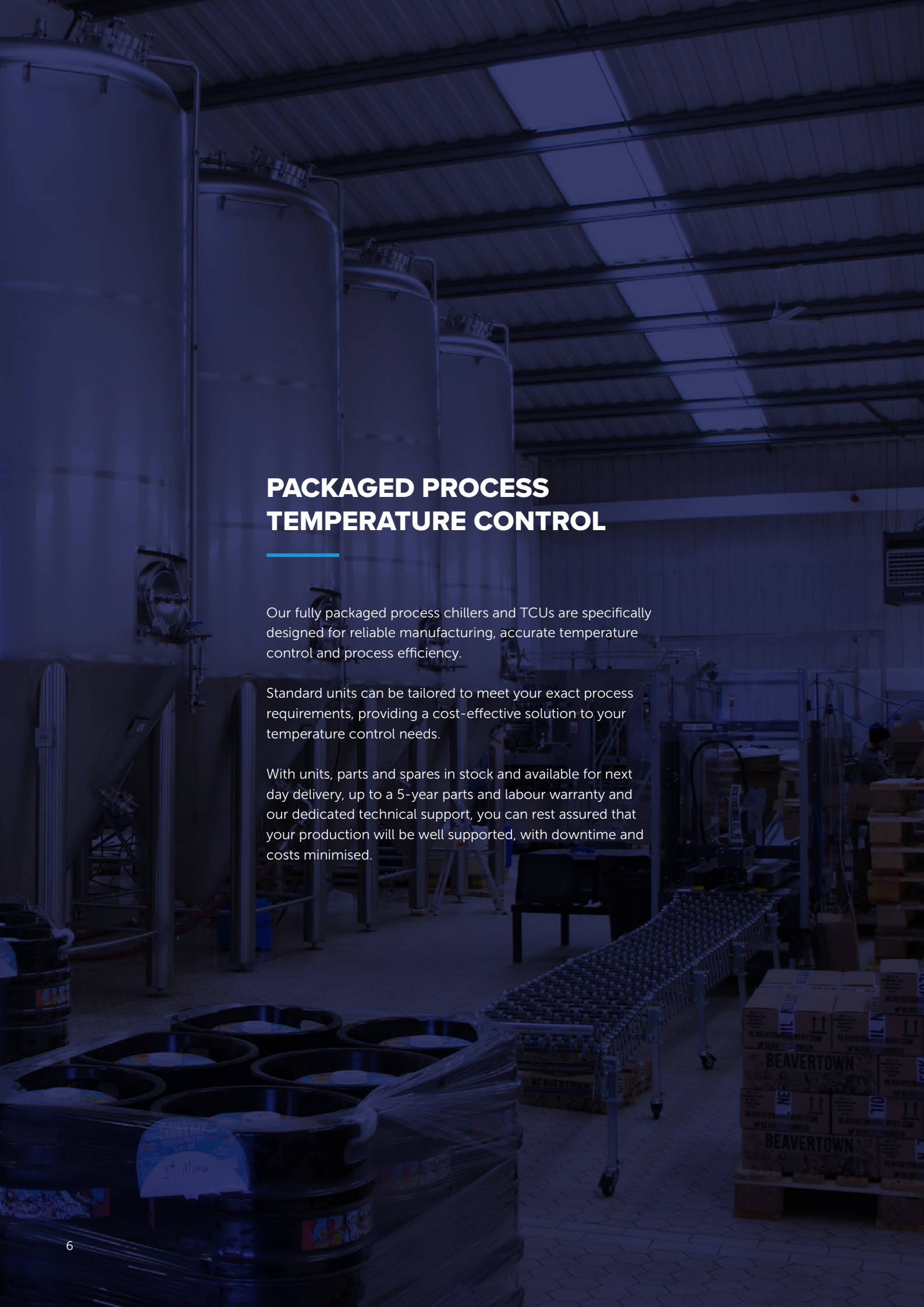
When investing in new cooling solutions, we'll provide you with peace of mind that your new equipment meets the latest legislation.

We offer the widest range of cost-effective temperature control solutions in the industry – enabling us to provide you with the best solution to meet your individual requirements.

OUR WIDE RANGE OF SOLUTIONS INCLUDE:

- Packaged Process Chillers from 1 to 469kW
- Packaged TCUs (water and oil) up to 360kW (electric) and 1600kW (steam to water)
- Energy-efficient cooling solutions up to 4MW
- Special process temperature control solutions
- Complete project management from site survey to commissioning
- Aftersales – maintenance, 24/7 technical support and hire contingency programmes

Read on to discover more about our wide range of packaged temperature control solutions or call us on **(UK & NI) 0800 774 7427 - (ROI) +353 (0) 4692 52934** to discuss your temperature control needs.



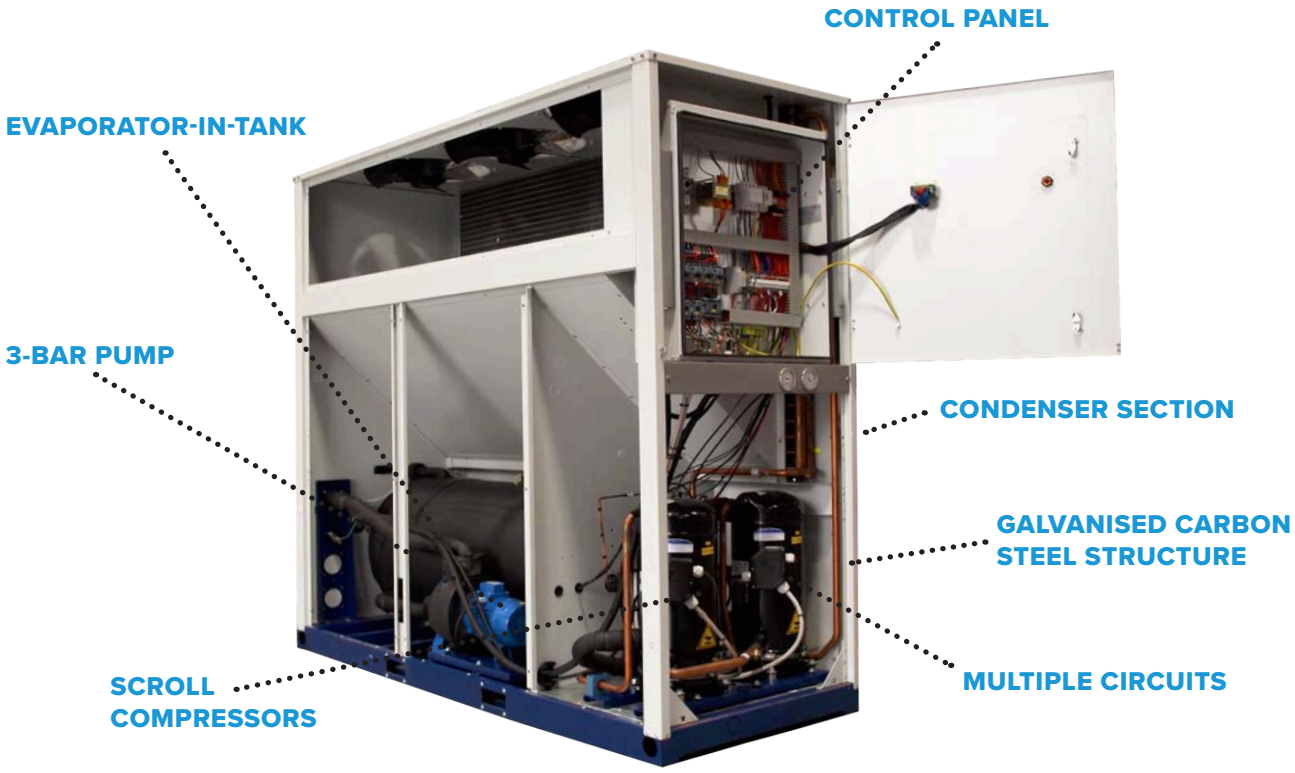
PACKAGED PROCESS TEMPERATURE CONTROL

Our fully packaged process chillers and TCUs are specifically designed for reliable manufacturing, accurate temperature control and process efficiency.

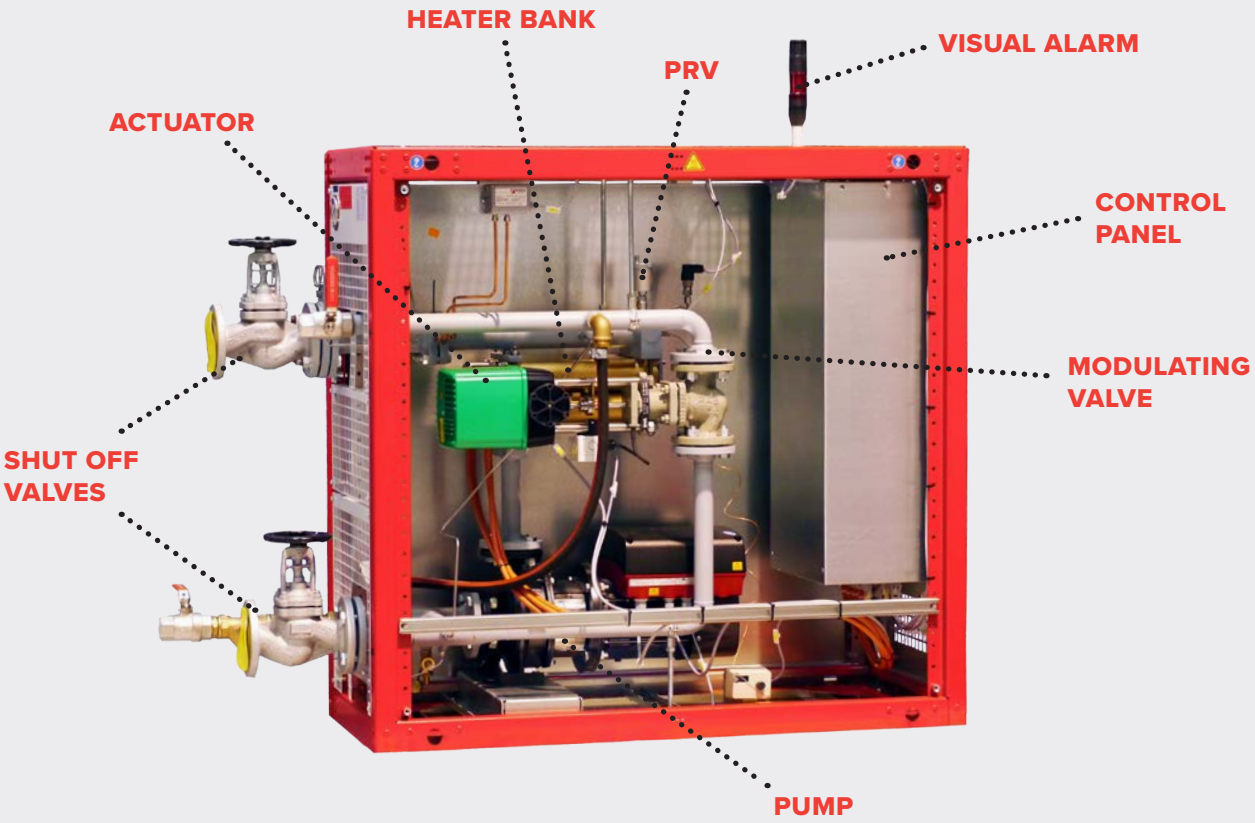
Standard units can be tailored to meet your exact process requirements, providing a cost-effective solution to your temperature control needs.

With units, parts and spares in stock and available for next day delivery, up to a 5-year parts and labour warranty and our dedicated technical support, you can rest assured that your production will be well supported, with downtime and costs minimised.

i-CHILLER



i-TEMP



FULLY PACKAGED CHILLERS

i-CHILLER

-10°C to 30°C | 1 to 469kW

The fully packaged, EcoDesign compliant, air-cooled i-Chiller range is designed specifically for reliable and efficient process cooling.

The i-Chiller's unique evaporator is immersed within a generously sized storage tank. This design ensures safe and reliable operation even during large fluctuations in cooling demand – something often encountered within various industrial applications.

Each unit comes with a 3-bar pump as standard with the option to customise with a 5-bar pump – allowing for demanding industrial applications.

For more information on the i-Chiller range call:
(UK & NI) 0800 774 7427 | (ROI) +353 (0) 4692 52934
www.icscoolenergy.com

ENERGY & PROCESS EFFICIENCY

- High efficiency finned coil in-tank evaporator with copper tubes & aluminium fins allowing for variable flow rates
- Hydraulic circuit includes integral 3-bar pump, drain valve, overflow & water pressure gauge and process connections
- High quality scroll compressor
- Copper tube / aluminium fin condenser coils combined with axial condenser fans

RELIABILITY

- Internal water bypass to protect pump against dead heading
- Phase monitor to protect the unit against phase loss & reversal
- Galvanised, epoxy coated carbon steel structure
- Electrical panel protection rating

EASE OF OPERATION & MAINTENANCE :

- Coil in-tank evaporator reduces chance of blockages due to poor water quality
- Easy to remove and clean condenser filter
- Easy to use and externally visible advanced electronic controller
- Digital input for remote on/off control
- Volt-free contacts for remote general alarm signal
- Mains isolator
- Manual filling kit comprising atmospheric (open) expansion tank

For added reassurance, all units come with a comprehensive 3-year parts warranty as standard with an option to extend to 5 years. Ts & Cs apply.

i-Chiller units are held in-stock for fast delivery and can be customised quickly with various options and modifications to meet your unique requirements – saving you valuable budget and time.

- **ECODESIGN COMPLIANT**
- **STOCK AVAILABLE IMMEDIATELY**
- **FAST CUSTOMISATION OF STANDARD MODELS**
- **INDIVIDUALLY FACTORY TESTED**
- **EFFICIENT R410A REFRIGERANT**
- **UP TO 5-YEAR WARRANTY**
- **3-BAR PUMP AS STANDARD**

THE FULLY PACKAGED i-CHILLER RANGE INCLUDES:

i-CHILLER COMPACT | iC03 - iC10C

From 1.7 to 4.7kW – providing process fluid temperatures from 0°C to 30°C.

- Piston/Rotary compressor operating with R134a/R410a refrigerant
- IP33 electrical panel protection rating
- Available in 4 sizes

i-CHILLER | iC215 - iC780

From 7.2 to 210kW – providing process fluid at temperatures from -10°C to 30°C.

- Scroll compressor(s) operating with R410a refrigerant
- IP44 electrical panel protection rating
- Available in 19 sizes

i-CHILLER MAX

From 230 to 469kW – providing process fluid at temperatures from -10°C to 20°C.

- Scroll compressor(s) operating with R410a refrigerant
- Shell and tube heat exchanger
- IP54 electrical panel protection rating
- Available in 8 sizes

i-CHILLER COMPACT
1 to 4 kW | 0°C to 30°C

			iC03C	iC05C	iC08C	iC10C
	Cooling Capacity 50Hz/60Hz (1)	kW	1.72 / 1.92	2.64 / -	3.42 / -	4.53 / -
	Total absorbed power 50Hz/60Hz (1)	kW	0.504 / 0.492	0.835 / -	0.981 / -	1.19 / -
	EER 50Hz/60Hz (1)	-	3.41 / 3.90	3.16 / -	3.42 / -	3.79 / -
	Cooling Capacity 50Hz/60Hz (2)	kW	1.17 / 1.33	1.74 / -	2.29 / -	3.03 / -
	Total absorbed power 50Hz/60Hz (2)	kW	0.575 / 0.554	0.963 / -	1.15 / -	1.39 / -
	EER 50Hz/60Hz (2)	-	2.04 / 2.40	1.81 / -	1.99 / -	2.18 / -
	Min / max ambient temps. (3)	°C	+5/+45	+5/+45	+5/+45	+5/+45
	Min / max fluid supply temps.	°C	0/+30	0/+30	0/+30	0/+30
	Compressor					
	Cooling circuits	no.1	1			
	Compressors per circuit	no.1	1			
	Capacity control	%	0-100			
	SEPR HT (50Hz operation)	-	4.51	4.74	4.80	4.86
	Electrical power supply (4)					
	Power	V/Ph/Hz	230±10%/1-PE/50-60	230±10%/1-PE/50		
	Auxiliary	V/Ph/Hz	230/1/50			
	Max. absorbed power (50Hz / 60Hz)	kW	0.9 / 1.0	1.6	1.9	2.3
	Max. absorbed current (50Hz / 60Hz)	A	4.1 / 4.8	7.5	8.6	10.1
	Starting current	A	15.8 / 16.3	20.3	22	27.3
	Fan					
	Fans number	No.	1			
	Total airflow	m³/h	700	1,100	1,450	1,400
	Nominal power (per fan)	kW	0.05	0.09		
	Hydraulic group					
P3	Water flow rate (5)	m³/h	0.1/0.5	0.2/1.5		
P3	Available pump head pressure (50Hz operation) (6)	barg	3.6/1.3	3.6/1.4		
P3	Available pump head pressure (60Hz operation) (6)	barg	4.5/1.6	-		
P3	Nominal absorbed power	kW	0.18	0.37		
P5	Water flow rate (5)	m³/h	-	0.2 / 1.4		
P5	Available pump head pressure (6)	barg	-	5.0 / 0.3		
P5	Nominal absorbed power	kW	-	0.6		
	Tank volume	l	15		22	
	Water connections	BSP	½"			
	Sound levels (7)					
	Sound power (50Hz operation)	dB(A)	74.0 / 75.0	75.0		
	Sound power (60Hz operation)	dB(A)	46.0 / 47.0	47.0		
	Dimensions & installed weight					
	Length	mm	660			
	Width	mm	486			
	Height	mm	623		876	
	Weight	kg	68	71	95	98

(1) Evaporator outlet / inlet temperatures +15°C/+20°C, external ambient temperature +25°C, total absorbed power includes compressor, fan & pump
(2) Evaporator outlet / inlet temperatures +7°C/+12°C, external ambient temperature +35°C, total absorbed power includes compressor, fan & pump
(3) Standard unit configuration operating with evaporator outlet / inlet temperatures +15°C/+20°C
(4) Protection class IP33
(5) Minimum / maximum water flow rates achievable by pump
(6) Available head pressure at outlet of unit at the minimum / maximum water flow rates
(7) Sound power determined on basis of measurements taken in accordance with ISO 3744. Sound pressure at 10m average value obtained in free field on a reflective surface at 10m distance from the side of the condenser coils & at a height of 1.6m from the unit support base. Values with tolerance ± 2dB. The sound levels refer to unit operation under full load in nominal conditions.
Unless otherwise specified, the above data refers to unit configuration with standard axial fans &fitted with standard P3 pump, operating at 50Hz for dual frequency models.
Data declared according to UNI EN 14511-2013.
SEPR HT: Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers.

i-CHILLER
7 to 210 kW | -10°C to 30°C

			iC215	iC220	iC303	iC305	iC408	iC410	iC412	iC416
	Cooling Capacity (1)	kW	7.31	8.35	13.1	18.9	30.3	37.3	45.4	53.6
	Total absorbed power (1)	kW	2.01	2.21	3.45	4.67	7.94	9.00	11.7	13.9
	EER (1)	-	3.64	3.78	3.81	4.05	3.81	4.14	3.20	3.87
	Cooling Capacity (2)	kW	5.21	5.80	9.37	13.5	22.3	27.7	34.1	40.2
	Total absorbed power (2)	kW	2.38	2.40	4.09	5.49	8.99	10.3	13.1	15.5
	EER (2)	-	2.19	2.41	2.29	2.47	2.49	2.66	2.60	2.59
	Min / max ambient temps. (3)	°C	-5/+46	-5/+43	-5/+46	-5/+45	-5/+44			-5/46
	Min / max fluid supply temps.	°C	-10/+30	-10/+30	-10/+30		-10/+30			
	Compressor									
	Cooling circuits	No.	1		1		1			
	Compressors per circuit	No.	1		1		1			
	Capacity control	%	0-100		0-100		0-100			
	SEPR HT	-	4.78	4.63	4.52		4.50	4.62		4.57
	SEPR MT	-	2.59	N/A	2.49	2.67	3.05	3.02	3.04	3.10
	Electrical power supply (4)									
	Power	V/Ph/Hz	400/3-PE/50		400/3-PE/50		400/3-PE/50			
	Auxiliary	V/Ph/Hz	24-230/1/50		24-230/1/50		24-230/1/50			
	Maximum absorbed power	kW	3.8	3.95	5.73	7.39	12.04	14.4	18.27	20.52
	Maximum absorbed current	A	6.53	6.94	10.22	12.87	20.2	24.58	31.31	37.04
	Starting current	A	27.65	33.65	49.78	65.78	113.37	120.37	144.24	178.24
	Fan									
	Fans number	No.	1		1		1	2		
	Total airflow	m³/h	3,350	3,150	6,300	6,100	8,150	14,200	12,400	
	Nominal power (per fan)	kW	0.135		0.48		0.71			
	Hydraulic group									
	Water flow rate (5)	m³/h	1.8/4.8		1.8/6.0		3.6/9.6		7.2/18.0	
P3	Available pump head pressure (6)	barg	2.9/2.0		3.02/2.1		2.8/1.7		2.8/2.3	
	Nominal absorbed power	kW	0.55		0.75		0.90		1.85	
	Water flow rate (5)	m³/h	1.2/4.8		1.2/4.8		3.6/12.6			
P5	Available pump head pressure (6)	barg	5.2/3.6		5.2/3.6		5.2/3.9			
	Nominal absorbed power	kW	1.10		1.10		2.20			
	Tank volume	l	60		115		140	255		
	Max working pressure	barg	6		6		6			
	Water connections	BSP	¾''		1"		1 ½''			
	Sound levels (7)									
	Sound power	dB(A)	80.4		81.1		81.6	82.1		82.9
	Sound pressure	dB(A)	52.4		53.1		53.6	54.1		54.9
	Dimensions & installed weight									
	Length	mm	1,284		1,315		1,862			
	Width	mm	560		660		761			
	Height	mm	795		1,373		1,437			
	Weight	kg	206	210	324	346	483	642	656	672

(1) Evaporator outlet / inlet temperatures +15°C/+20°C, external ambient temperature +25°C, total absorbed power includes compressors & fans
(2) Evaporator outlet / inlet temperatures +7°C/+12°C, external ambient temperature +35°C, total absorbed power includes compressors & fans
(3) Standard unit configuration operating with evaporator outlet / inlet temperatures +15/+20°C
(4) Protection class IP54
(5) Minimum / maximum water flow rates achievable by pump
(6) Available head pressure at outlet of unit at the minimum / maximum water flow rates
(7) Sound power determined on basis of measurements taken in accordance with ISO 3744. Sound pressure at 10m average value obtained in free field on a reflective surface at 10m distance from the side of the condenser coils & at a height of 1.6m from the unit support base. Values with tolerance ± 2dB. The sound levels refer to unit operation under full load in nominal conditions.
Unless otherwise specified, the above data refers to unit configuration with standard axial fans & fitted with standard P3 pump.
Data declared according to UNI EN 14511-2013.
SEPR HT: Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers.
SEPR MT: Data declared in compliance with the European Regulation (EU) 2015/1095 with regard to ecodesign requirements for medium temperature & low temperature process chillers.

iC520	iC525	iC530	iC535	iC538	iC540	iC640	iC650	iC660	iC770	iC780
60.1	69.2	80.1	92.1	112	128	119	140	154	184	213
15.7	18.1	20.3	24.4	26.5	28.9	30.8	34.3	38.9	45.5	51.5
3.82	3.82	3.95	3.78	4.20	4.44	3.87	4.07	3.97	4.05	4.14
44.5	50.8	59.4	67.9	81.9	93.9	88.1	103	114	139	160
17.9	20.9	23.1	27.1	29.9	32.7	35.4	40.1	44.8	51.5	56.6
2.48	2.43	2.57	2.50	2.74	2.87	2.49	2.50	2.55	2.70	2.83
-5/+43	-5/+44			-5/+44		-5/+44		-5/+43	-5/+44	
-10/+30				-10/+30		-10/+30			-10/+30	
1				1		2			2	
2				2		2			2	
0-50-100				0-50-100		0-25-50-75-100			0-25-50-75-100	
5.05	5.12	4.75	4.85	4.92	5.04	5.11	5.30	5.08	5.07	5.31
3.09	3.34	3.04	3.05	3.02	3.04	3.19	3.50	3.41	3.38	3.42
400/3-PE/50				400/3-PE/50		400/3-PE/50			400/3-PE/50	
24-230/1/50				24-230/1/50		24-230/1/50			24-230/1/50	
23.72	27.02	31.05	36.25	42.09	47.69	48.89	55.49	61.39	70.48	79.48
39.9	45.86	52.52	63.11	75.42	81.88	81.55	93.47	103.19	119.28	142.2
134.47	144.45	168.25	207.11	219.42	270.42	176.12	192.00	218.92	235.01	286.2
2		3		2		2			3	
16,200	16,000	22,200	21.600	37,000	35,000	45,800	44,400	42,800	63,900	62,100
0.71				1.9		1.9			1.9	
7.2/18.0		6.0/20.0		9.5/36.0		9.5/36.0			13.0/56.0	
2.8/2.3		3.5/2.5		3.6/2.4		3.6/2.4			3.4/2.5	
1.85		2.2		4.0		4.0			5.5	
6.0/21.6				12.0/42.0		12.0/42.0			30.0/72.0	
5.2/3.9				5.3/4.3		5.3/4.3			4.9/3.5	
4.0				7.5		7.5			9.2	
350				410		500			678	
6				6		6			6	
2"				2½		2½''			3"	
84.3		86.0		88.4	89.7	89.5			90.2	90.7
56.3		58.0		60.4	61.7	61.5			62.2	62.7
2,250				2,790		3,298			3.535	
866				1,150		1,255			1,250	
2,054				2,090		2,119			2,151	
1,006	1,023	1,057	1,065	1,432	1,537	1,701	1,750	1,786	2,290	2,310

i-CHILLER MAX
230 to 469 kW | -10°C to 20°C

		AS T 070 HE	AS T 080 HE	AS T 090 HE	AS T 100 HE
Cooling Capacity (1)	kW	230	265	281	295
Total absorbed power (1)	kW	51.2	58.3	62.9	67.4
EER (1)	-	4.50	4.55	4.47	4.37
Cooling Capacity (2)	kW	167	192	203	213
Total absorbed power (2)	kW	55.5	63.0	67.8	72.5
EER (2)	-	3.02	3.04	3.00	2.93
Min / max ambient temps. (3)	°C	-5/+44 (-20/+50)			
Min / max fluid supply temps. (4)	°C	0/+20 (-10/+20)			
Compressors					
Cooling circuits	No.	2			
Compressors per circuit	No.	2			
Capacity control	%	0-25-50-75-100			
SEPR HT	-	4.95	5.06	4.96	4.86
SEER	-	3.98	4.04	4.05	4.02
Electrical power supply (5)					
Power	V/Ph/Hz	400/3-PE/50			
Auxiliary	V/Ph/Hz	24-230/1/50			
Maximum absorbed power	kW	81	92	98	106
Maximum absorbed current	A	146	159	166	175
Starting current (AC fans/optional EC fans)	A	290 / 288	348 / 345	354 / 352	364 / 361
Fan(s)					
Fans number	No.	4			
Total airflow	m³/h	76,000	72,000		
Nominal power (per fan)	kW	1.62			
Hydraulic group					
Water flow rate (6)	m³/h	12.5 / 39.0	14.5 / 39.0	17.0 / 44.0	17.0 / 44.0
Available pump head pressure (7)	barg	4.3/2.9	4.3/3.0	4.2 / 2.8	3.7 / 3.0
Nominal absorbed power	kW	5.5	5.5	5.5	7.5
Tank volume	l	400			
Max working pressure	barg	3			
Water connections	-	DN100 stub			
Sound levels (8)					
Sound power	dB(A)	93.0	92.1		
Sound pressure	dB(A)	65.0	64.1		
Dimensions & installed weight					
Length	mm	3,495			
Width	mm	2,188			
Height	mm	2,150			
Weight	kg	1,826	1,991	2,131	2,260

(1) Evaporator outlet / inlet temperatures +15°C/+20°C, external ambient temperature +25°C, total absorbed power includes compressor & fan(s)
(2) Evaporator outlet / inlet temperatures +7°C/+12°C, external ambient temperature +35°C, total absorbed power includes compressor & fan(s)
(3) Standard unit configuration operating with evaporator outlet / inlet temperatures +15/+20°C – extended operating range possible when optional EC fans & electronic expansion valves are included
(4) Standard unit configuration – extended operating range possible when optional EC fans & electronic expansion valves are included
(5) Protection class IP54
(6) Minimum / maximum water flow rates able to be accommodated by evaporator
(7) Available head pressure at outlet of unit at the minimum / maximum water flow rates
(8) Sound power determined on basis of measurements taken in accordance with ISO 3744. Sound pressure at 10m average value obtained in free field on a reflective surface at 10m distance from the side of the condenser coils & at a height of 1.6m from the unit support base. Values with tolerance ± 2dB. The sound levels refer to unit operation under full load in nominal conditions.
Unless otherwise specified, the above data refers to unit configuration with standard axial fans & fitted with standard P3 pump.
Data declared according to UNI EN 14511-2013.
SEER/SEPR HT: Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers.

AS T 110 HE	AS T 120 HE	AS T 130 HE	AS T 140 HE
343	378	426	469
75.3	81.9	95.6	110
4.56	4.61	4.56	4.24
248	273	308	339
81.2	89.3	104	119
3.05	3.06	2.97	2.85
-5/+44 (-20/+50)			
0/+20 (-10/+20)			
2			
2			
0-25-50-75-100			
5.00	5.02	5.09	5.08
4.00	4.09	4.13	4.07
400/3/50			
24-230/1/50			
120	130	148	164
199	215	247	275
427 / 423	443 / 439	498 / 495	527 / 523
6			
112,000	108,000	105,000	
	1.62		
19.0 / 49.0	19.0 / 49.0	23.0 / 74.0	26.0 / 76.0
3.7 / 2.9	3.7 / 2.9	3.7 / 1.9	4.9 / 2.8
75	7.5	7.5	9.2
600			
3			
DN125 stub			
92.1	92.7		
64.1	64.7		
4,595			
2,188			
2,150			
2,618	2,694	2,796	2,832

FULLY PACKAGED TCUs

i-TEMP

-20°C to 400°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 400°C.

For more information on the i-Temp range call:
(UK & NI) 0800 774 7427 | (ROI) +353 (0) 4692 52934
www.icscoolenergy.com

ACCURATE TEMPERATURE CONTROL

EFFICIENT, RELIABLE & FAST

- Solid State Relays – accurate and reliable
- Splash proof electrics
- Units are held in stock for fast delivery
- Standard units can be customised quickly with various options and modifications

The C8 basic controller is featured as standard on our range of '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

STOCK AVAILABLE IMMEDIATELY

FAST CUSTOMISATION OF STANDARD MODELS

ADVANCED CONTROLLER WITH LCD SCREEN

INTERFACE OPTIONS INCLUDING ETHERNET AND PROFIBUS

DATA CAPTURE TO SD CARD

TAKING CONTROL

C8 ADVANCED CONTROLLERS

- 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

Confidence in your process, with the knowledge that your temperature control unit meets a wider criteria that is key in achieving a stable end product and 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 (°c per sec/min) which can be saved and re-used
- Real time clock (7 day timers)
- Real time graph display (trending)
- Password protected (3 levels: Operator, Manager and Manufacturer
- Ethernet as standard
- Alarms logbook
- Selectable languages (14 available)
- Service due alarm
- Full help menu built into controller

CONTROL FEATURES

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

Features	C8 Advanced
Full colour touch screen display	●
Selected languages	●
Multiple units can be operated only via one display	●
Logbook for alarms	●
Ramp programme	●
Remote probe (FE-CuNi or PT100)	
Flow monitoring	● [1]
Trending	●
7 Day timer	●
Return temperature indication	● [1]
Integrated operating and service information	●
Service due alarm	●
Temperature limit values	●
Ethernet interface	●
Optional interfaces analogue 0-10 V, 0/4-20mA, serial RS232, RS 422, RS 485, TTY, Profibus, Profinet.	● [2]

THE FULLY PACKAGED i-TEMP RANGE INCLUDES:

i-TEMP COMPACT

Indirect and direct water TCUs up to 160°C.

HEATING CAPACITIES FROM 6 TO 36kW
COOLING CAPACITIES FROM 23 TO 600kW

i-TEMP COMPACT cd

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

i-TEMP COMPACT ci

Temperature controllers 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 wi

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.

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

THE FULLY PACKAGED i-TEMP RANGE INCLUDES:

i-TEMP wd

Temperature control units for water heating and 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.

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

i-TEMP wh

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.

- **MAGNETICALLY COUPLED PUMPS**
- **RETURN FLOW TEMPERATURE MONITORING**
- **BUILT-IN CONDENSING UNIT TO PREVENT STEAM HAMMER**
- **LEVEL MONITORING VIA A BUILT-IN HIGH PRESSURE MAKEUP FILLING UNIT**
- **RAMP FUNCTION FOR TEMPERATURE CHANGES, PERFECT FOR PLASTICS PROCESSING**

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

i-TEMP tt/th

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.

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

i-TEMP MAX

Indirect and direct water, oil and thermal oil TCUs up to 400°C.

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

i-TEMP COMPACT

cd

Up to 140°C | 6 to 18kW

Temperature controllers water indirect 95°C, 120°C, 140°C

Model i-Temp	i-Temp cd 90e	i-Temp cd 140e	i-Temp cd 90t	i-Temp cd 120t
Fluid	water	water	water	water
Temperature max. (°C)	95	140	95	120
Pump capacity max. (l/min/bar)	60/3.8 (6.0)	30/5.4.4	70/4.7	70/4.7
Heating capacity (kW)	6-9	6	6-18	6-18
Cooling	direct	direct	direct	direct
Cooling capacity (kW)[1]	52	32	140	195
Weight (kg)	44	35	50	50
Process circuit supply and return connections	G½"	G¾"	G¾"	G¾"
Cooling water supply and return connections	G¼"	G½"	G½"	G½"
Dimensions in mm (L x W x H)	680 x 250 x 595	480 x 250 x 546	955 x 400 x 740	955 x 400 x 740

i-TEMP COMPACT

ci

Up to 160°C | 6 to 36kW

Temperature controllers water indirect 95°C, 120°C, 140°C and 160°C

Model i-Temp	i-Temp ci 90e	i-Temp ci 140e	i-Temp ci 160e	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
Fluid	water	water	water	water	water	water	water	water	water	water
Temperature max. (°C)	95	140	160	95	95	95	95	140	140	140/160
Pump capacity max. (l/min/bar)	60/3.8 (6.0)	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
Heating capacity (kW)	9	9	9	9	18	27	36	9	12/18	9
Cooling	indirect	indirect	indirect	indirect	indirect	indirect	indirect	indirect	indirect	indirect
Cooling capacity (kW)[1]	23 (42)	40	40	23 (42)	50	250	250	40	40	40
Weight (kg)	44	50	50	46	95	100	100	50	95	50
Process circuit supply and return connections	G½"	G½"	G½"	G½"	G¾"	G1"	G1"	G½"	G¾"	G½"
Cooling water supply and return connections	G¼"	G¼"	G¼"	G¼"	G½"	G¾"	G¾"	G¼"	G½"	G¼"
Dimensions in mm (L x W x H)	680 x 250 x 595	680 x 250 x 595	680 x 250 x 595	680 x 250 x 595	955 x 400 x 740	955 x 400 x 740	955 x 400 x 740	680 x 250 x 595	955 x 400 x 740	680 x 250 x 595

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 centrigual pump	two-stage stainless centrigual pump	two-stage stainless centrigual pump	centrigual pump	centrigual 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 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 wh

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

i-TEMP to/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

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. (m^3/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 m^3/h	12	20	35	50	70
Pump - Pressure Max Hm	50	60	60	60	58
Heating capacity, electic 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

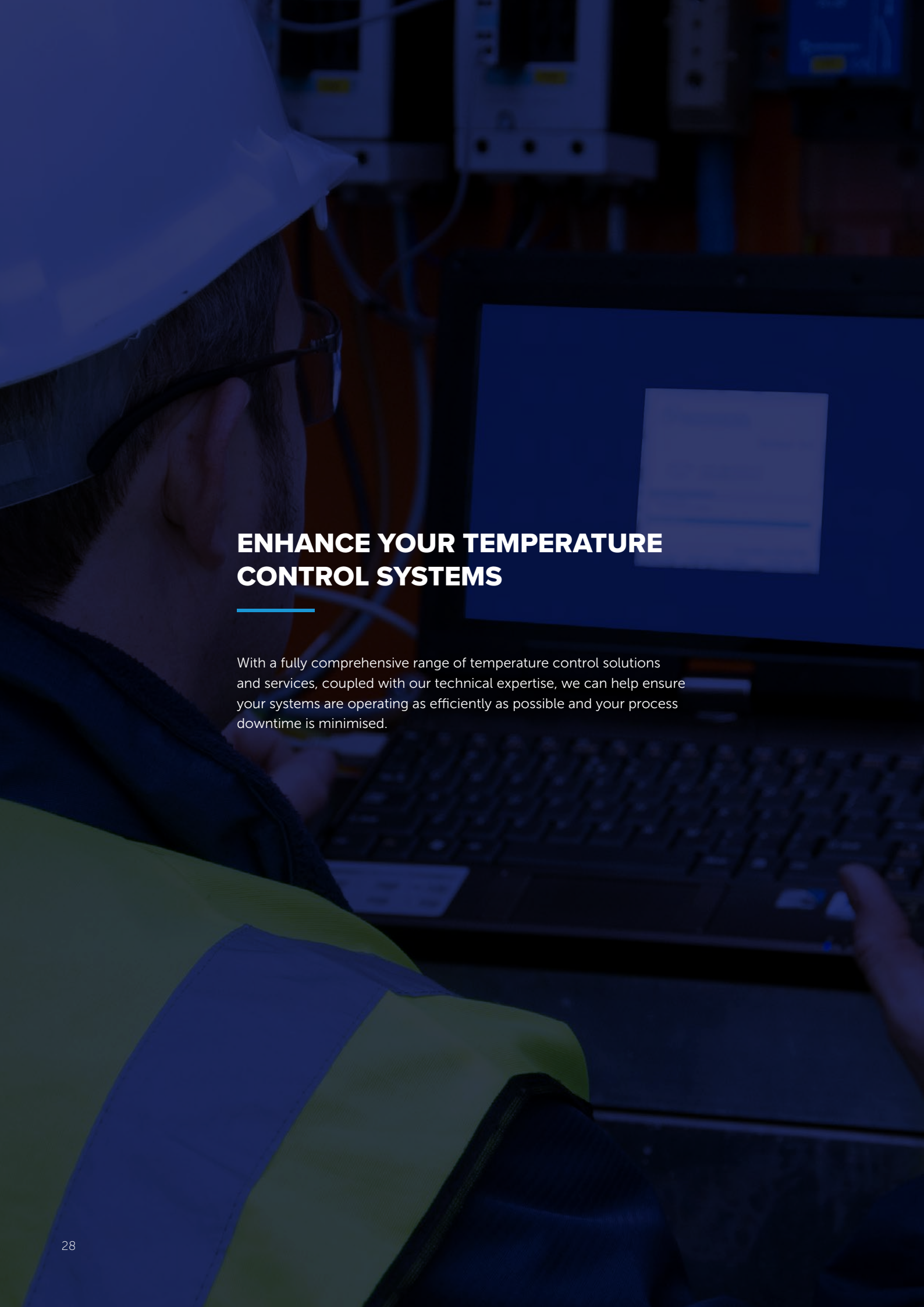
Up to 150°C | 12 to 360kW

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. (m^3/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



ENHANCE YOUR TEMPERATURE CONTROL SYSTEMS

With a fully comprehensive range of temperature control solutions and services, coupled with our technical expertise, we can help ensure your systems are operating as efficiently as possible and your process downtime is minimised.

CHILLERS UP TO 4MW

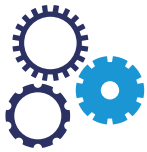
PLANNED PREVENTATIVE MAINTENANCE

SYSTEM ENHANCEMENTS FOR ENERGY-EFFICIENCY

WATER TREATMENT

GLYCOL

REMOTE MONITORING



REPLACEMENT PARTS AND SPARES

CONTINGENCY PLANNING

ACCREDITATIONS

WHAT'S NEXT?

Our technical experts are fully conversant in manufacturing processes and experienced in providing temperature control solutions for a wide variety of applications.

Our packaged solutions can be tailored to meet your exact needs. By visiting your site, we can review your existing systems or discuss a new project you have in mind, we'll then be able to make to make specific recommendations and produce a no-obligation proposal to meet your exact needs.

We can also provide technical support over the phone too.

CALL US ON

0800 774 7427

To discuss your temperature control requirements today.

PROCESS TEMPERATURE CONTROL SPECIALISTS.
SALES. HIRE. SERVICE.

UK and ROI offices:
Southampton: +44 (0) 23 8052 7300

Birmingham: +44 (0) 1675 432270
Bradford: +44 (0) 1274 214272

Scotland: +44 (0) 1698 7445 40
Ireland: +353 (0) 4692 52934

International offices:
Germany: +49 (0)70 468 80870

Netherlands: +31 (0)88 258 2580
Switzerland: +41 55 505 66 22

Austria: +43 (0) 1 941 57 97
France: +33 (0) 1 60 66 80 83

WWW.ICSCOOLENERGY.COM

Sales & Service Brochure v2 May 18