ABOUT THE i-CHILLER RANGE

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

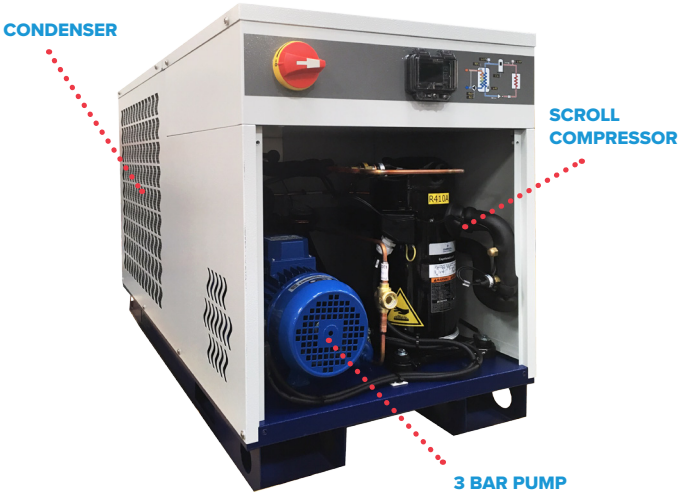
The unique evaporator is immersed within a generously sized storage tank. This design ensures safe and reliable operation even during large fluctuations in cooling demand – something often encountered within various industrial applications.
Each unit comes with a 3-bar pump as standard with the option to customise with a 5-bar pump – allowing for demanding industrial applications.

The i-Chiller ranges from 7.2 to 210kW and provides process fluid at temperatures from -10°C to 30°C. All 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.

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
- Scroll compressor(s) operating with R410a refrigerant
- 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: IP44

EASE OF OPERATION & MAINTENANCE:

- 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

EcoDesign Compliant

These models are compliant with ErP efficiency requirements for high temperature process chillers.

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Equipment designed to ISO 9001 and all relevant electrical, pressure and mechanical directives.
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• = Standard / o = Optional

	iC215	iC220
Atmospheric fill & vent tank	•	•
Remote on/off	•	•
Volt free alarm contact	•	•
Water pressure gauge	•	•
Low pressure safety switch	•	•
High pressure safety switch	•	•
Antifreeze protection	•	•
Outlet temperature indication	•	•
Condensing pressure fan switch	•	•
Tank level sensor	•	•
Alarm history	•	•
Non-ferrous fluid circuit	O	O
Pressuirsed non-ferrous fluid circuit	O	O
Close temperature control +/- 0.5K	O	O
Low ambient to -20°C	O	O
P5 High pressure pump	O	O
Run / standby pumps	O	O
Phase cut fan speed controller	O	O
Anti-Floodback	O	O
Water filter	O	O
Manual bypass	O	O
Pressure relief bypass	O	O
Compressor soft start	O	O
Condensers coil coating	O	O
Pre Heat inline heater	O	O
Trace heating for frost protection	O	O
Loose kits		
Manual bypass kit	O	O
Pressure relief bypass kit	O	O
Pressurisation kit	O	O
Advanced remote control kit	O	O
RS485 Modbus trend kit	O	O
Gateway Modbus trend kit	O	O
xWEB Supervisor kit	O	O
xWEB Supervisor kit with GPRS	O	O
Remote X	O	O
Master/Slave modularity kit	O	O
Glycol filling kit	O	O

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			iC215	iC220
	Cooling Capacity (1)	kW	7.31	8.35
	Total absorbed power (1)	kW	2.01	2.21
	EER (1)	-	3.64	3.78
	Cooling Capacity (2)	kW	5.21	5.80
	Total absorbed power (2)	kW	2.38	2.40
	EER (2)	-	2.19	2.41
	Min / max ambient temps. (3)	°C	-5/+46	-5/+43
	Min / max fluid supply temps.	°C	-10/+30	-10/+30
	Compressor			
	Cooling circuits	No.	1	
	Compressors per circuit	No.	1	
	Capacity control	%	0-100	
	SEPR HT	-	4.78	4.63
	Electrical power supply (4)			
	Power	V/Ph/Hz	400/3-PE/50	
	Auxiliary	V/Ph/Hz	24-230/1/50	
	Maximum absorbed power	kW	3.8	3.95
	Maximum absorbed current	A	6.53	6.94
	Starting current	A	27.65	33.65
	Fan			
	Fans number	No.	1	
	Total airflow	m^3/h	3,350	3,150
	Nominal power (per fan)	kW	0.135	
	Hydraulic group			
P3	Water flow rate (5)	m^3/h	1.8/4.8	
	Available pump head pressure (6)	barg	2.9/2.0	
	Nominal absorbed power	kW	0.55	
P5	Water flow rate (5)	m^3/h	1.2/4.8	
	Available pump head pressure (6)	barg	5.2/3.6	
	Nominal absorbed power	kW	1.10	
	Tank volume	l	60	
	Max working pressure	barg	6	
	Water connections	BSP	¾''	
	Sound levels (7)			
	Sound power	dB(A)	80.4	
	Sound pressure	dB(A)	52.4	
	Dimensions & installed weight			
	Length	mm	1,284	
	Width	mm	560	
	Height	mm	795	
	Weight	kg	206	210

(1) Evaporator outlet / inlet temperatures +15°C/+20°C, external ambient temperature +25°C, total absorbed power includes compressor & fan
(2) Evaporator outlet / inlet temperatures +7°C/+12°C, external ambient temperature +35°C, total absorbed power includes compressor & fan
(3) Standard unit configuration operating with evaporator outlet / inlet temperatures +15°C/+20°C
(4) Protection class IP44
(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.

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Information requirements for high temperature process chillers - SEPR HT			
Model:		iC215	
Type of condensing:		Air-cooled	
Refrigerant fluid:		Water	
Item	Symbol	Value	Unit
Operating temperature	*t*	7,00	°C
Seasonal energy performance ratio	SEPR	4,78	[-]
Anual electricity consumption	Q	7850,27	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	5,1	kW
Rated power input	D_A	2,09	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,44	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	5,8	kW
Declared power input	D_B	1,69	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,43	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	6,4	kW
Declared power input	D_C	1,36	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,70	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	7,0	kW
Declared power input	D_D	1,09	kW
Declared energy efficiency ratio	$EER_{DC,D}$	6,38	[-]
Other items			
Capacity control		Fixed	
Degradation co-efficient chillers	C_{dc}	0,90	[-]
Type and GWP of the refrigerant	R410A	2088,00	kg CO2 eq (100 years)
Contact details	ICS Cool Energy Ltd - Stephenson Road, Calmore Industrial Estate Totton, Southampton SO40 3SA GB		
annex to manual			

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Information requirements for high temperature process chillers - SEPR HT			
Model:	iC220		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	*t*	7,00	°C
Seasonal energy performance ratio	SEPR	4,63	[-]
Anual electricity consumption	Q	9197,28	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	5,8	kW
Rated power input	D_A	2,40	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,41	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	6,6	kW
Declared power input	D_B	1,94	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,38	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	7,2	kW
Declared power input	D_C	1,57	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,61	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	7,8	kW
Declared power input	D_D	1,29	kW
Declared energy efficiency ratio	$EER_{DC,D}$	6,02	[-]
Other items			
Capacity control	Fixed		
Degradation co-efficient chillers	C_{dc}	0,90	[-]
Type and GWP of the refrigerant	R410A	2088,00	kg CO2 eq (100 years)
Contact details	ICS Cool Energy Ltd - Stephenson Road, Calmore Industrial Estate Totton, Southampton SO40 3SA GB		
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