



## 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:

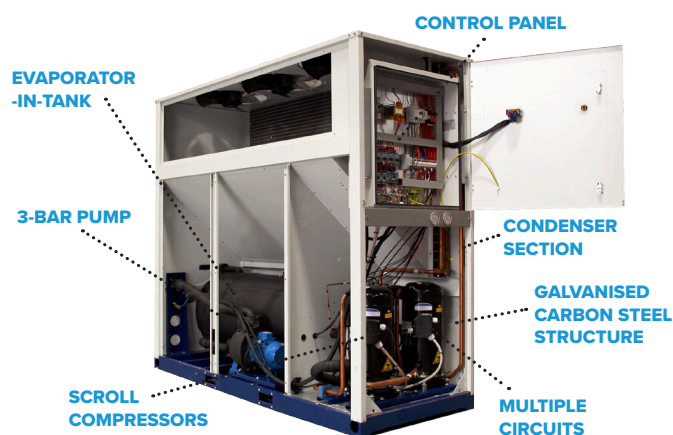
- High efficiency finned coil in-tank evaporator with copper tubes & aluminium fins allowing for variable flow rates
- Hydraulic circuit includes integral 3-bar pump, drain valve, overflow & water pressure gauge and process connections
- Scroll compressor(s) operating with R410a refrigerant
- Copper 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:

- High & low refrigerant pressure gauges & switches
- 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



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

● = Standard / ○ = Optional

	iC538	iC540
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 switch	●	●
Tank level sensor	●	●
Alarm history	●	●
Automatic compressor rotation	●	●
Low ambient to -20°C	○	○
High efficiency brushless axial fans	○	○
P5 High pressure pump	○	○
Run / standby pumps	○	○
Phase cut fan speed controller	○	○
Anti-Floodback	○	○
Water filter	○	○
Manual bypass	○	○
Pressure relief bypass	○	○
Compressor soft start	○	○
Electronic expansion valve	○	○
Condensers coil coating	○	○
Pre Heat inline heater	○	○
Trace heating for frost protection	○	○
<b>Loose kits</b>		
Manual bypass kit	○	○
Pressure relief bypass kit	○	○
Pressurisation kit	○	○
Advanced remote control kit	○	○
RS485 Modbus trend kit	○	○
Gateway Modbus trend kit	○	○
xWEB Supervisor kit	○	○
xWEB Supervisor kit with GPRS	○	○
Remote X	○	○
Master/Slave modularity kit	○	○
Glycol filling kit	○	○

			iC538	iC540
	Cooling Capacity (1)	kW	112	128
	Total absorbed power (1)	kW	26.5	28.9
	EER (1)	-	4.20	4.44
	Cooling Capacity (2)	kW	81.9	93.9
	Total absorbed power (2)	kW	29.9	32.7
	EER (2)	-	2.74	2.87
	Min / max ambient temps. (3)	°C	-5/+43	
	Min / max fluid supply temps (4)	°C	-10/+30	
<b>Compressors</b>				
	Cooling circuits	No.	1	
	Compressors per circuit	No.	2	
	Capacity control	%	0-50-100	
	SEPR HT	-	4.92	5.04
	SEPR MT	-	3.02	3.04
<b>Electrical power supply (4)</b>				
	Power	V/Ph/Hz	400/3-PE/50	
	Auxiliary	V/Ph/Hz	24-230/1/50	
	Maximum absorbed power	kW	42.09	47.69
	Maximum absorbed current	A	75.42	81.88
	Starting current	A	219.42	270.42
<b>Fan(s)</b>				
	Fans number	No.	2	
	Total airflow	m <sup>3</sup> /h	37,000	35,000
	Nominal power (per fan)	kW	1.9	
<b>Hydraulic group</b>				
P3	Water flow rate (5)	m <sup>3</sup> /h	9.5/36.0	
	Available pump head pressure (6)	barg	3.6/2.4	
	Nominal absorbed power	kW	4.0	
P5	Water flow rate (5)	m <sup>3</sup> /h	12.0/42.0	
	Available pump head pressure (6)	barg	5.3/4.3	
	Nominal absorbed power	kW	7.5	
	Tank volume	l	410	
	Max working pressure	barg	6	
	Water connections	BSP	2½	
<b>Sound levels (7)</b>				
	Sound power	dB(A)	88.4	89.7
	Sound pressure	dB(A)	60.4	61.7
<b>Dimensions &amp; installed weight</b>				
	Length	mm	2,790	
	Width	mm	1,150	
	Height	mm	2,090	
	Weight	kg	1,432	1,537

(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.

Information requirements for high temperature process chillers - SEPR HT

Model:	iC538		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	$t$	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,92	[-]
Annual electricity consumption	$Q$	120639,43	kWh/a
<b>Parameters at full load and reference ambient temperature at rating point A</b>			
Rated refrigeration capacity	$P_A$	80,9	kW
Rated power input	$D_A$	28,13	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,87	[-]
<b>Parameters at rating point B</b>			
Declared refrigeration capacity	$P_B$	89,9	kW
Declared power input	$D_B$	23,80	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,78	[-]
<b>Parameters at rating point C</b>			
Declared refrigeration capacity	$P_C$	98,3	kW
Declared power input	$D_C$	20,39	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,82	[-]
<b>Parameters at rating point D</b>			
Declared refrigeration capacity	$P_D$	106,9	kW
Declared power input	$D_D$	18,95	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,64	[-]
<b>Other items</b>			
Capacity control	Progressive		
Degradation co-efficient chillers	$C_{dc}$	0,90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		

annex to manual

Information requirements for high temperature process chillers - SEPR HT

Model:	iC540		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	$t$	7,00	°C
Seasonal energy performance ratio	SEPR HT	5,04	[-]
Annual electricity consumption	$Q$	134908,31	kWh/a
<b>Parameters at full load and reference ambient temperature at rating point A</b>			
Rated refrigeration capacity	$P_A$	92,5	kW
Rated power input	$D_A$	31,19	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,97	[-]
<b>Parameters at rating point B</b>			
Declared refrigeration capacity	$P_B$	103,1	kW
Declared power input	$D_B$	26,14	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,94	[-]
<b>Parameters at rating point C</b>			
Declared refrigeration capacity	$P_C$	113,1	kW
Declared power input	$D_C$	22,56	kW
Declared energy efficiency ratio	$EER_{DC,C}$	5,01	[-]
<b>Parameters at rating point D</b>			
Declared refrigeration capacity	$P_D$	72,4	kW
Declared power input	$D_D$	12,84	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,64	[-]
<b>Other items</b>			
Capacity control	Progressive		
Degradation co-efficient chillers	$C_{dc}$	0,90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		

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Information requirements for medium temperature process chillers - SEPR MT

Model:	iC538		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	$t$	-8	°C
Seasonal energy performance ratio	SEPR MT	3.02	[-]
Annual electricity consumption	$Q$	113591	kWh/a
<b>Parameters at full load and reference ambient temperature at rating point A</b>			
Rated refrigeration capacity	$P_A$	46.68	kW
Rated power input	$D_A$	25.45	kW
Rated energy efficiency ratio	$EER_A$	1.83	[-]
<b>Parameters at rating point B</b>			
Declared refrigeration capacity	$P_B$	43.42	kW
Declared power input	$D_B$	17.95	kW
Declared energy efficiency ratio	$EER_B$	2.42	[-]
<b>Parameters at rating point C</b>			
Declared refrigeration capacity	$P_C$	40.62	kW
Declared power input	$D_C$	13.29	kW
Declared energy efficiency ratio	$EER_C$	3.05	[-]
<b>Parameters at rating point D</b>			
Declared refrigeration capacity	$P_D$	37.35	kW
Declared power input	$D_D$	11.35	kW
Declared energy efficiency ratio	$EER_D$	3.29	[-]
<b>Other items</b>			
Capacity control	Progressive		
Degradation co-efficient chillers	$C_c$	0.90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		

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Information requirements for medium temperature process chillers - SEPR MT

Model:	iC540		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	$t$	-8	°C
Seasonal energy performance ratio	SEPR MT	3.04	[-]
Annual electricity consumption	$Q$	126837	kWh/a
<b>Parameters at full load and reference ambient temperature at rating point A</b>			
Rated refrigeration capacity	$P_A$	52.58	kW
Rated power input	$D_A$	28.28	kW
Rated energy efficiency ratio	$EER_A$	1.86	[-]
<b>Parameters at rating point B</b>			
Declared refrigeration capacity	$P_B$	48.90	kW
Declared power input	$D_B$	19.83	kW
Declared energy efficiency ratio	$EER_B$	2.47	[-]
<b>Parameters at rating point C</b>			
Declared refrigeration capacity	$P_C$	45.74	kW
Declared power input	$D_C$	14.70	kW
Declared energy efficiency ratio	$EER_C$	3.11	[-]
<b>Parameters at rating point D</b>			
Declared refrigeration capacity	$P_D$	42.06	kW
Declared power input	$D_D$	12.85	kW
Declared energy efficiency ratio	$EER_D$	3.27	[-]
<b>Other items</b>			
Capacity control	Progressive		
Degradation co-efficient chillers	$C_c$	0.90	[-]
Type and GWP of the refrigerant	R410A	2088	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		

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