



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:

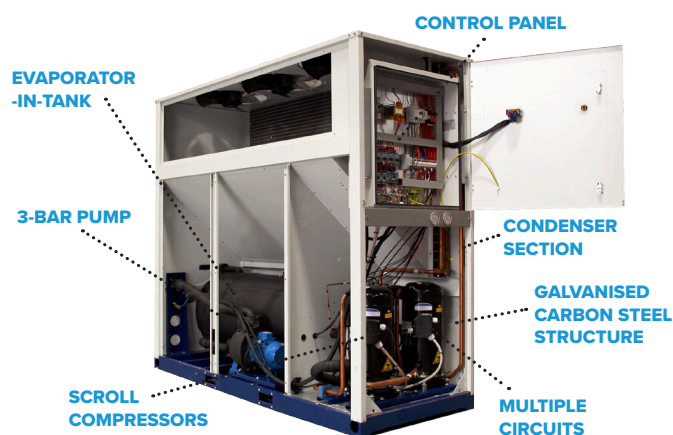
- High efficiency finned coil in-tank evaporator with copper tubes & aluminium fins allowing for variable flow rates
- Hydraulic circuit includes integral 3-bar pump, drain valve, overflow & water pressure gauge and process connections
- Scroll compressor(s) operating with R410a refrigerant
- Copper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

	iC303	iC305
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	○	○
Pressurised non-ferrous fluid circuit	○	○
Close temperature control +/- 0.5K	○	○
Low ambient to -20°C	○	○
Centrifugal 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	○	○
Condensers coil coating	○	○
Pre Heat inline heater	○	○
Trace heating for frost protection	○	○
Loose kits		
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	○	○

			iC303	iC305
	Cooling Capacity (1)	kW	13.1	18.9
	Total absorbed power (1)	kW	3.45	4.67
	EER (1)	-	3.81	4.05
	Cooling Capacity (2)	kW	9.37	13.5
	Total absorbed power (2)	kW	4.09	5.49
	EER (2)	-	2.29	2.47
	Min / max ambient temps. (3)	°C	-5/+46	-5/+45
	Min / max fluid supply temps.	°C	-10/+30	
Compressor				
	Cooling circuits	No.	1	
	Compressors per circuit	No.	1	
	Capacity control	%	0-100	
	SEPR HT	-	4.52	
	SEPR MT	-	2.49	2.67
Electrical power supply (4)				
	Power	V/Ph/Hz	400/3-PE/50	
	Auxiliary	V/Ph/Hz	24-230/1/50	
	Maximum absorbed power	kW	5.73	7.39
	Maximum absorbed current	A	10.22	12.87
	Starting current	A	49.78	65.78
Fan				
	Fans number	No.	1	
	Total airflow	m ³ /h	6,300	6,100
	Nominal power (per fan)	kW	0.48	
Hydraulic group				
P3	Water flow rate (5)	m ³ /h	1.8/6.0	
	Available pump head pressure (6)	barg	3.02/2.1	
	Nominal absorbed power	kW	0.75	
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	i	115	
	Max working pressure	barg	6	
	Water connections	BSP	1"	
Sound levels (7)				
	Sound power (50Hz / 60Hz)	dB(A)	81.1	
	Sound pressure (50Hz / 60Hz)	dB(A)	53.1	
Dimensions & installed weight				
	Length	mm	1,315	
	Width	mm	660	
	Height	mm	1,373	
	Weight	kg	324	346

(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 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:	iC303		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,52	[-]
Annual electricity consumption	Q	14931,14	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	9,2	kW
Rated power input	D_A	3,73	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,46	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	10,4	kW
Declared power input	D_B	3,07	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,39	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	11,5	kW
Declared power input	D_C	2,56	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,49	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	12,5	kW
Declared power input	D_D	2,14	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,84	[-]
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 B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		

annex to manual

Information requirements for high temperature process chillers - SEPR HT

Model:	iC305		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,52	[-]
Annual electricity consumption	Q	21525,22	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	13,3	kW
Rated power input	D_A	5,25	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,53	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	15,0	kW
Declared power input	D_B	4,39	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,42	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	16,5	kW
Declared power input	D_C	3,68	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,48	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	17,7	kW
Declared power input	D_D	3,04	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,80	[-]
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 B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		

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Information requirements for medium temperature process chillers - SEPR MT

Model:	iC303		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	2.49	[-]
Annual electricity consumption	Q	13978	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	4.74	kW
Rated power input	D _A	3.56	kW
Rated energy efficiency ratio	EER _A	1.33	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	5.51	kW
Declared power input	D _B	2.89	kW
Declared energy efficiency ratio	EER _B	1.91	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	6.14	kW
Declared power input	D _C	2.38	kW
Declared energy efficiency ratio	EER _C	2.58	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	6.47	kW
Declared power input	D _D	2.10	kW
Declared energy efficiency ratio	EER _D	3.08	[-]
Other items			
Capacity control	Fixed		
Degradation co-efficient chillers	C _c	0.90	[-]
Type and GWP of the refrigerant	R410A	2088,00	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:	iC305		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	2.67	[-]
Annual electricity consumption	Q	18935	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	6.88	kW
Rated power input	D _A	4.95	kW
Rated energy efficiency ratio	EER _A	1.39	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	8.15	kW
Declared power input	D _B	4.11	kW
Declared energy efficiency ratio	EER _B	1.98	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	9.16	kW
Declared power input	D _C	3.37	kW
Declared energy efficiency ratio	EER _C	2.71	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	9.76	kW
Declared power input	D _D	2.83	kW
Declared energy efficiency ratio	EER _D	3.45	[-]
Other items			
Capacity control	Fixed		
Degradation co-efficient chillers	C _c	0.90	[-]
Type and GWP of the refrigerant	R410A	2088,00	kg CO2 eq (100 years)
Contact details	ICS Cool Energy B.V. - Rotschotseweg 4, 5271 WX Sint - Michielsgestel		

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