



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:

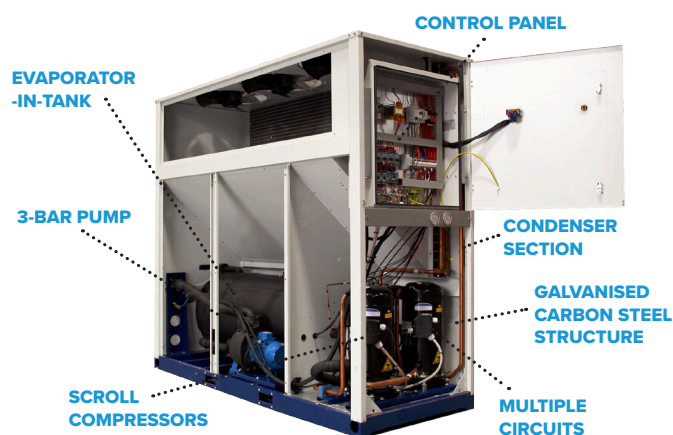
- High efficiency finned coil in-tank evaporator with copper tubes & aluminium fins allowing for variable flow rates
- Hydraulic circuit includes integral 3-bar pump, drain valve, overflow & water pressure gauge and process connections
- Scroll compressor(s) operating with R410a refrigerant
- Copper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

	iC640	iC650	iC660
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	●	●	●
Automatic compressor rotation	●	●	●
High pressure transducers	●	●	●
High condensing pressure compressor unloading function	●	●	●
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	○	○	○
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	○	○	○

			iC640	iC650	iC660
	Cooling Capacity (1)	kW	119	140	154
	Total absorbed power (1)	kW	30.8	34.3	38.9
	EER (1)	-	3.87	4.07	3.97
	Cooling Capacity (2)	kW	88.1	103	114
	Total absorbed power (2)	kW	35.4	40.1	44.8
	EER (2)	-	2.49	2.50	2.55
	Min / max ambient temps. (3)	°C	-5/+44		-5/+43
	Min / max fluid supply temps. (4)	°C	-10/+30		
Compressors					
	Cooling circuits	No.	2		
	Compressors per circuit	No.	2		
	Capacity control	%	0-25-50-75-100		
	SEPR HT	-	5.11	5.30	5.08
	SEPR MT	-	3.19	3.50	3.41
Electrical power supply (4)					
	Power	V/Ph/Hz	400/3-PE/50		
	Auxiliary	V/Ph/Hz	24-230/1/50		
	Maximum absorbed power	kW	48.89	55.49	61.39
	Maximum absorbed current	A	81.55	93.47	103.19
	Starting current	A	176.12	192.00	218.92
Fan					
	Fans number	No.	2		
	Total airflow	m ³ /h	45,800	44,400	42,800
	Nominal power (per fan)	kW	1.9		
Hydraulic group					
P3	Water flow rate (5)	m ³ /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 ³ /h	12.0/42.0		
	Available pump head pressure (6)	barg	5.3/4.3		
	Nominal absorbed power	kW	7.5		
	Tank volume	l	500		
	Max working pressure	barg	6		
	Water connections	BSP	2½"		
Sound levels (7)					
	Sound power	dB(A)	89.5		
	Sound pressure	dB(A)	61.5		
Dimensions & installed weight					
	Length	mm	3,298		
	Width	mm	1,255		
	Height	mm	2,119		
	Weight	kg	1,701	1,750	1,786

(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:	iC640		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	5,11	[-]
Annual electricity consumption	Q	124834,00	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	86,9	kW
Rated power input	D_A	33,72	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,58	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	97,7	kW
Declared power input	D_B	27,22	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,59	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	83,3	kW
Declared power input	D_C	17,47	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,77	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	89,6	kW
Declared power input	D_D	13,89	kW
Declared energy efficiency ratio	$EER_{DC,D}$	6,45	[-]
Other items			
Capacity control	Variable		
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 high temperature process chillers - SEPR HT

Model:	iC550		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	5,30	[-]
Annual electricity consumption	Q	140117,21	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	101,2	kW
Rated power input	D_A	38,81	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,61	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	114,7	kW
Declared power input	D_B	30,64	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,74	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	97,8	kW
Declared power input	D_C	19,46	kW
Declared energy efficiency ratio	$EER_{DC,C}$	5,03	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	103,7	kW
Declared power input	D_D	15,78	kW
Declared energy efficiency ratio	$EER_{DC,D}$	6,57	[-]
Other items			
Capacity control	Variable		
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 high temperature process chillers - SEPR HT

Model:	iC660		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	5,08	[-]
Annual electricity consumption	Q	162256,16	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	112,3	kW
Rated power input	D _A	43,73	kW
Rated energy efficiency ratio	EER _{DC,A}	2,57	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	102,6	kW
Declared power input	D _B	27,86	kW
Declared energy efficiency ratio	EER _{DC,B}	3,68	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	112,2	kW
Declared power input	D _C	23,00	kW
Declared energy efficiency ratio	EER _{DC,C}	4,88	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	87,6	kW
Declared power input	D _D	14,25	kW
Declared energy efficiency ratio	EER _{DC,D}	6,14	[-]
Other items			
Capacity control	Variable		
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:	iC640		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	3.19	[-]
Annual electricity consumption	Q	113978	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	49.47	kW
Rated power input	D_A	30.93	kW
Rated energy efficiency ratio	EER_A	1.60	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	46.01	kW
Declared power input	D_B	20.19	kW
Declared energy efficiency ratio	EER_B	2.28	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	43.04	kW
Declared power input	D_C	14.01	kW
Declared energy efficiency ratio	EER_C	3.07	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	39.58	kW
Declared power input	D_D	10.26	kW
Declared energy efficiency ratio	EER_D	3.86	[-]
Other items			
Capacity control	Variable		
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:	iC650		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	3.50	[-]
Annual electricity consumption	Q	121555	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	57.99	kW
Rated power input	D_A	35.25	kW
Rated energy efficiency ratio	EER_A	1.65	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	52.33	kW
Declared power input	D_B	21.63	kW
Declared energy efficiency ratio	EER_B	2.42	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	50.45	kW
Declared power input	D_C	14.91	kW
Declared energy efficiency ratio	EER_C	3.38	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	46.39	kW
Declared power input	D_D	10.76	kW
Declared energy efficiency ratio	EER_D	4.31	[-]
Other items			
Capacity control	Variable		
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:	iC660		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	3.41	[-]
Annual electricity consumption	Q	140456	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	65.28	kW
Rated power input	D_A	39.09	kW
Rated energy efficiency ratio	EER_A	1.67	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	60.27	kW
Declared power input	D_B	24.93	kW
Declared energy efficiency ratio	EER_B	2.42	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	56.80	kW
Declared power input	D_C	17.32	kW
Declared energy efficiency ratio	EER_C	3.28	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	51.50	kW
Declared power input	D_D	12.36	kW
Declared energy efficiency ratio	EER_D	4.17	[-]
Other items			
Capacity control	Variable		
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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