



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:

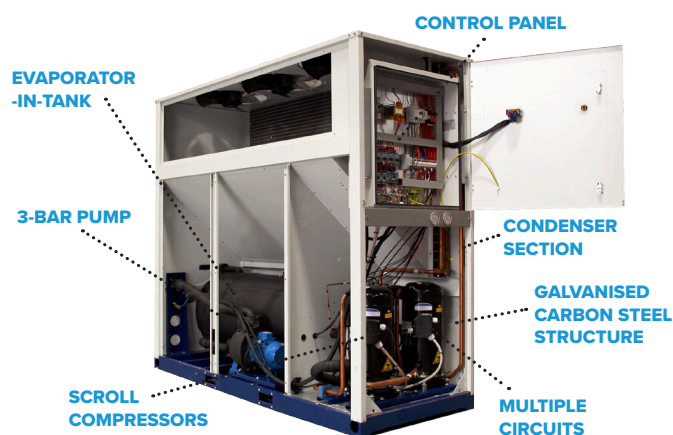
- High efficiency finned coil in-tank evaporator with copper tubes & aluminium fins allowing for variable flow rates
- Hydraulic circuit includes integral 3-bar pump, drain valve, overflow & water pressure gauge and process connections
- Scroll compressor(s) operating with R410a refrigerant
- Copper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

	iC520	iC525	iC530	iC535
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	●	●	●	●
Non-ferrous fluid circuit	○	○	○	○
Pressurised non-ferrous fluid circuit	○	○	○	○
Close temperature control +/- 0.5K	○	○	○	○
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	○	○	○	○

			iC520	iC525	iC530	iC535
Cooling Capacity (1)	kW		60.1	69.2	80.1	92.1
Total absorbed power (1)	kW		15.7	18.1	20.3	24.4
EER (1)	-		3.82	3.82	3.95	3.78
Cooling Capacity (2)	kW		44.5	50.8	59.4	67.9
Total absorbed power (2)	kW		17.9	20.9	23.1	27.1
EER (2)	-		2.48	2.43	2.57	2.50
Min / max ambient temps. (3)	°C		-5/+43		-5/+44	
Min / max fluid supply temps. (4)	°C		-10/+30	-10/+30	-10/+30	-10/+30
Compressors						
Cooling circuits	No.		1			
Compressors per circuit	No.		2			
Capacity control	%		0-50-100			
SEPR HT	-		5.05	5.12	4.75	4.85
SEPR MT	-		3.09	3.34	3.04	3.05
Electrical power supply (5)						
Power	V/Ph/Hz		400/3-PE/50			
Auxiliary	V/Ph/Hz		24-230/1/50			
Maximum absorbed power	kW		23.72	27.02	31.05	36.25
Maximum absorbed current	A		39.9	45.86	52.52	63.11
Starting current	A		134.47	144.45	168.25	207.11
Fans						
Fans number	No.		2		3	
Total airflow	m ³ /h		16,200	16,000	22,200	21,600
Nominal power (per fan)	kW		0.71			
Hydraulic group						
P3	Water flow rate (5)	m ³ /h	7.2/18.0		6.0/20.0	
	Available pump head pressure (6)	barg	2.8 / 2.3		3.5 / 2.5	
	Nominal absorbed power	kW	1.85		2.2	
P5	Water flow rate (5)	m ³ /h	6.0/21.6			
	Available pump head pressure (6)	barg	5.2/3.9			
	Nominal absorbed power	kW	4.0			
Tank volume	i		350			
Max working pressure	barg		6			
Water connections	BSP		2"			
Sound levels (7)						
Sound power	dB(A)		84.3		86.0	
Sound pressure	dB(A)		56.3		58.0	
Dimensions & installed weight						
Length	mm		2,250			
Width	mm		866			
Height	mm		2,054			
Weight	kg		1,006	1,023	1,057	1,065

(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°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:	iC520		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	5.05	[-]
Annual electricity consumption	Q	63797,46	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	43,9	kW
Rated power input	D_A	17,19	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,55	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	49,3	kW
Declared power input	D_B	13,72	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,60	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	54,2	kW
Declared power input	D_C	11,21	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,83	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	58,7	kW
Declared power input	D_D	9,51	kW
Declared energy efficiency ratio	$EER_{DC,D}$	6,18	[-]
Other items			
Capacity control	Progressive		
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:	iC525		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	5.12	[-]
Annual electricity consumption	Q	71736.31	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	50,1	kW
Rated power input	D_A	20,29	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,47	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	56,0	kW
Declared power input	D_B	15,72	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,62	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	62,8	kW
Declared power input	D_C	12,66	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,96	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	67,6	kW
Declared power input	D_D	10,86	kW
Declared energy efficiency ratio	$EER_{DC,D}$	6,22	[-]
Other items			
Capacity control	Progressive		
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:	iC530		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,75	[-]
Annual electricity consumption	Q	90147,93	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	58,4	kW
Rated power input	D_A	22,57	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,59	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	65,6	kW
Declared power input	D_B	18,25	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,59	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	71,9	kW
Declared power input	D_C	15,39	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,67	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	46,7	kW
Declared power input	D_D	8,50	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,50	[-]
Other items			
Capacity control	Progressive		
Degradation co-efficient chillers	C_{dc}	0,90	[-]
Type and GWP of the refrigerant	R410A	2088,00	kg CO2 eq (100 years)
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Information requirements for high temperature process chillers - SEPR HT

Model:	iC535		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,85	[-]
Annual electricity consumption	Q	102756,79	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	67,8	kW
Rated power input	D_A	27,14	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,50	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	75,8	kW
Declared power input	D_B	21,81	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,48	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	82,7	kW
Declared power input	D_C	17,89	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,62	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	54,2	kW
Declared power input	D_D	9,16	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,92	[-]
Other items			
Capacity control	Progressive		
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:	iC520		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	3.09	[-]
Annual electricity consumption	Q	59705	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	25.10	kW
Rated power input	D _A	15.64	kW
Rated energy efficiency ratio	EER _A	1.60	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	23.35	kW
Declared power input	D _B	10.08	kW
Declared energy efficiency ratio	EER _B	2.32	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	21.84	kW
Declared power input	D _C	7.08	kW
Declared energy efficiency ratio	EER _C	3.09	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	20.08	kW
Declared power input	D _D	5.70	kW
Declared energy efficiency ratio	EER _D	3.52	[-]
Other items			
Capacity control	Progressive		
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:	iC525		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	3.34	[-]
Annual electricity consumption	Q	63740	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	28.97	kW
Rated power input	D_A	18.17	kW
Rated energy efficiency ratio	EER_A	1.59	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	26.94	kW
Declared power input	D_B	11.31	kW
Declared energy efficiency ratio	EER_B	2.38	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	25.20	kW
Declared power input	D_C	7.56	kW
Declared energy efficiency ratio	EER_C	3.34	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	23.18	kW
Declared power input	D_D	5.93	kW
Declared energy efficiency ratio	EER_D	3.91	[-]
Other items			
Capacity control	Progressive		
Degradation co-efficient chillers	C_c	0.90	[-]
Type and GWP of the refrigerant	R410A	2088,00	kg CO2 eq (100 years)
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Information requirements for medium temperature process chillers - SEPR MT

Model:	iC530		
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	82140	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	34.07	kW
Rated power input	D _A	20.30	kW
Rated energy efficiency ratio	EER _A	1.68	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	31.69	kW
Declared power input	D _B	13.40	kW
Declared energy efficiency ratio	EER _B	2.37	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	29.65	kW
Declared power input	D _C	9.59	kW
Declared energy efficiency ratio	EER _C	3.09	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	26.70	kW
Declared power input	D _D	7.93	kW
Declared energy efficiency ratio	EER _D	3.37	[-]
Other items			
Capacity control	Progressive		
Degradation co-efficient chillers	C _c	0.90	[-]
Type and GWP of the refrigerant	R410A	2088,00	kg CO2 eq (100 years)
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Information requirements for medium temperature process chillers - SEPR MT

Model:	iC535		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	3.05	[-]
Annual electricity consumption	Q	95902	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	39.90	kW
Rated power input	D _A	24.03	kW
Rated energy efficiency ratio	EER _A	1.66	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	37.10	kW
Declared power input	D _B	15.99	kW
Declared energy efficiency ratio	EER _B	2.32	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	34.71	kW
Declared power input	D _C	11.37	kW
Declared energy efficiency ratio	EER _C	3.05	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	31.92	kW
Declared power input	D _D	9.22	kW
Declared energy efficiency ratio	EER _D	3.46	[-]
Other items			
Capacity control	Progressive		
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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