



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:

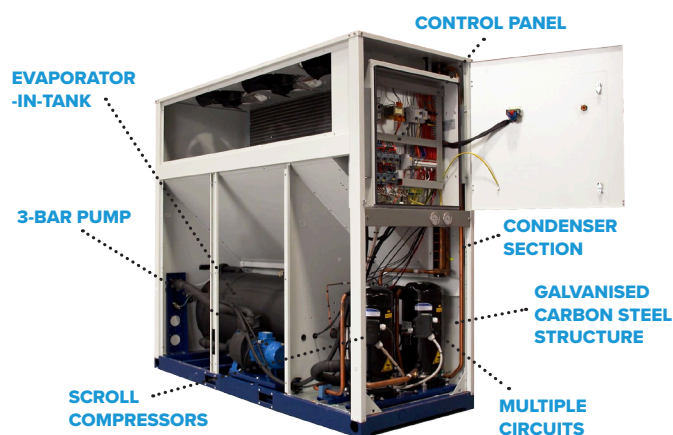
- High efficiency finned coil in-tank evaporator with copper tubes & aluminium fins allowing for variable flow rates
- Hydraulic circuit includes integral 3-bar pump, drain valve, overflow & water pressure gauge and process connections
- Scroll compressor(s) operating with R410a refrigerant
- Copper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

	iC408	iC410	iC412	iC416
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	○	○	○	○
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	○	○	○	○

			iC408	iC410	iC412	iC416
	Cooling Capacity (1)	kW	30.3	37.3	45.4	53.6
	Total absorbed power (1)	kW	7.94	9.00	11.7	13.9
	EER (1)	-	3.81	4.14	3.20	3.87
	Cooling Capacity (2)	kW	22.3	27.7	34.1	40.2
	Total absorbed power (2)	kW	8.99	10.3	13.1	15.5
	EER (2)	-	2.49	2.66	2.60	2.59
	Min / max ambient temps. (3)	°C	-5/+44			-5/46
	Min / max fluid supply temps.	°C	-10/+30			
Compressor						
	Cooling circuits	No.	1			
	Compressors per circuit	No.	1			
	Capacity control	%	0-100			
	SEPR HT	-	4.50	4.62		4.57
	SEPR MT		3.05	3.02	3.04	3.10
Electrical power supply (4)						
	Power	V/Ph/Hz	400/3-PE/50			
	Auxiliary	V/Ph/Hz	24-230/1/50			
	Maximum absorbed power	kW	12.04	14.4	18.27	20.52
	Maximum absorbed current	A	20.2	24.58	31.31	37.04
	Starting current	A	113.37	120.37	144.24	178.24
Fan(s)						
	Fans number	No.	1	2		
	Total airflow	m ³ /h	8,150	14,200	12,400	
	Nominal power (per fan)	kW	0.71			
Hydraulic group						
P3	Water flow rate (5)	m ³ /h	3.6/9.6		7.2/18.0	
	Available pump head pressure (6)	barg	2.8/1.7		2.8/2.3	
	Nominal absorbed power	kW	0.90		1.85	
P5	Water flow rate (5)	m ³ /h	3.6/12.6			
	Available pump head pressure (6)	barg	5.2/3.9			
	Nominal absorbed power	kW	2.20			
	Tank volume	l	140	255		
	Max working pressure	barg	6			
	Water connections	BSP	1 ½"			
Sound levels (7)						
	Sound power	dB(A)	81.6	82.1		82.9
	Sound pressure	dB(A)	53.6	54.1		54.9
Dimensions & installed weight						
	Length	mm	1,862			
	Width	mm	761			
	Height	mm	1,437			
	Weight	kg	483	642	656	672

(1) Evaporator outlet / inlet temperatures +15°C/+20°C, external ambient temperature +25°C, total absorbed power includes compressor & fan(s)

(2) Evaporator outlet / inlet temperatures +7°C/+12°C, external ambient temperature +35°C, total absorbed power includes compressor & fan(s)

(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:	iC408		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,50	[-]
Annual electricity consumption	Q	35734,75	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	21,9	kW
Rated power input	D_A	8,79	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,49	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	24,8	kW
Declared power input	D_B	7,27	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,41	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	27,3	kW
Declared power input	D_C	6,12	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,46	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	29,7	kW
Declared power input	D_D	5,13	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 high temperature process chillers - SEPR HT

Model:	iC410		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,62	[-]
Annual electricity consumption	Q	43191,25	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	27,2	kW
Rated power input	D_A	10,21	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,66	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	30,6	kW
Declared power input	D_B	8,54	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,59	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	33,5	kW
Declared power input	D_C	7,24	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,62	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	35,7	kW
Declared power input	D_D	6,17	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,79	[-]
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 high temperature process chillers - SEPR HT

Model:	iC412		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,62	[-]
Annual electricity consumption	Q	53837,45	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	33,9	kW
Rated power input	D_A	12,23	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,77	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	37,7	kW
Declared power input	D_B	10,34	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,65	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	41,0	kW
Declared power input	D_C	8,87	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,63	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	44,1	kW
Declared power input	D_D	7,74	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,70	[-]
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 high temperature process chillers - SEPR HT

Model:	iC416		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Water		
Item	Symbol	Value	Unit
Operating temperature	t	7,00	°C
Seasonal energy performance ratio	SEPR HT	4,57	[-]
Annual electricity consumption	Q	63825,23	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	39,7	kW
Rated power input	D_A	14,69	kW
Rated energy efficiency ratio	$EER_{DC,A}$	2,70	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	44,2	kW
Declared power input	D_B	12,48	kW
Declared energy efficiency ratio	$EER_{DC,B}$	3,54	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	48,3	kW
Declared power input	D_C	10,69	kW
Declared energy efficiency ratio	$EER_{DC,C}$	4,52	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	52,4	kW
Declared power input	D_D	9,10	kW
Declared energy efficiency ratio	$EER_{DC,D}$	5,76	[-]
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:	iC408		
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	30515	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P _A	12.68	kW
Rated power input	D _A	7.95	kW
Rated energy efficiency ratio	EER _A	1.60	[-]
Parameters at rating point B			
Declared refrigeration capacity	P _B	14.73	kW
Declared power input	D _B	6.49	kW
Declared energy efficiency ratio	EER _B	2.27	[-]
Parameters at rating point C			
Declared refrigeration capacity	P _C	16.33	kW
Declared power input	D _C	5.38	kW
Declared energy efficiency ratio	EER _C	3.03	[-]
Parameters at rating point D			
Declared refrigeration capacity	P _D	17.71	kW
Declared power input	D _D	4.43	kW
Declared energy efficiency ratio	EER _D	4.00	[-]
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:	iC410		
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	38077	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	15.69	kW
Rated power input	D_A	9.43	kW
Rated energy efficiency ratio	EER_A	1.66	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	18.05	kW
Declared power input	D_B	7.82	kW
Declared energy efficiency ratio	EER_B	2.31	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	20.13	kW
Declared power input	D_C	6.54	kW
Declared energy efficiency ratio	EER_C	3.08	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	21.51	kW
Declared power input	D_D	5.66	kW
Declared energy efficiency ratio	EER_D	3.80	[-]
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:	iC412		
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	48081	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	19.92	kW
Rated power input	D_A	11.08	kW
Rated energy efficiency ratio	$EER_{DC,A}$	1.80	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	22.35	kW
Declared power input	D_B	9.27	kW
Declared energy efficiency ratio	$EER_{DC,B}$	2.41	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	24.40	kW
Declared power input	D_C	7.83	kW
Declared energy efficiency ratio	$EER_{DC,C}$	3.12	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	25.64	kW
Declared power input	D_D	7.00	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)
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Information requirements for medium temperature process chillers - SEPR MT

Model:	iC416		
Type of condensing:	Air-cooled		
Refrigerant fluid:	Brine		
Item	Symbol	Value	Unit
Operating temperature	t	-8	°C
Seasonal energy performance ratio	SEPR MT	3.10	[-]
Annual electricity consumption	Q	56069	kWh/a
Parameters at full load and reference ambient temperature at rating point A			
Rated refrigeration capacity	P_A	23.65	kW
Rated power input	D_A	13.14	kW
Rated energy efficiency ratio	EER_A	1.80	[-]
Parameters at rating point B			
Declared refrigeration capacity	P_B	26.50	kW
Declared power input	D_B	11.03	kW
Declared energy efficiency ratio	EER_B	2.40	[-]
Parameters at rating point C			
Declared refrigeration capacity	P_C	28.99	kW
Declared power input	D_C	9.36	kW
Declared energy efficiency ratio	EER_C	3.10	[-]
Parameters at rating point D			
Declared refrigeration capacity	P_D	31.10	kW
Declared power input	D_D	8.04	kW
Declared energy efficiency ratio	EER_D	3.87	[-]
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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