i-CHILLER

Innovative, Intelligent, Industrial

Next Generation Chiller Technology

Cooling capacity 1.4 - 166kW

ics cool energy

Introduction

ICS Cool Energy is a specialist solutions provider who sell, rent and service temperature control equipment for process and comfort applications.

Established in 1989, ICS Cool Energy has over twenty-five years' pan-european experience in the food and beverage processing, chemical and pharmaceutical, plastics and rubber, manufacturing and facilities management markets, having provided solutions to over **50,000** temperature control projects worldwide.

ICS Cool Energy provides a trustworthy and successful service to its large customer base, and with continual growth plans, ICS Cool Energy is always investing in innovation in order to expand and improve product ranges, whilst maintaining their exceptional standards.

ICS Cool Energy provide maximum flexibility for customers; providing standard and packaged units including custom builds with commissioning, hire solutions and **24/7** service support.

All units are manufactured to ISO **9001, 14001** and Eurovent accreditation standards ensuring the highest levels of performance and quality.

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25 years' experience and over 50,000 projects completed World-wide

Case Study examples

Finding the last piece of the puzzle... for a plastic parts manufacturer

Requirement: Producing over 95,000 parts per day, a plastics manufacturing firm required urgent cooling assistance for a new application involving the solidification of plastic inside a mould.

Solution: ICS Cool Energy supplied a new energy-efficient chiller within 3 days of quoting for the project, allowing the company to get their processes back in order as quickly as possible.

The manufacturer uses an efficient injection moulding method using plastic pellets which begin the process in a vessel at a temperature of around 80°C to remove moisture.

The pellets are then gravity fed into a rotating screw and barrel. As it rotates, the pitch on the screw shortens, compressing the material and generating heat.

This is helped along its way by four band heaters on the screw; allowing the plastic to reach a temperature of approximately 285°C. Once at this temperature, it is injected into eight cavities within a mould which solidifies very quickly in order for the process to be completed within the desired 1.25 seconds. The new chiller provided by ICS Cool Energy ensures this step by pumping a chilled water/glycol mix around the mould at a temperature of -10°C.

Damage Control: Keeping business moving through adversity

Requirement: Following a fire, a manufacturer of water management equipment sought emergency assistance from ICS Cool Energy in order to restore normality to their heavily damaged production facilities and get their processes back on track. With design and manufacturing their primary focus, the company's facilities were comprehensive, and with the fire causing critical levels of damage to their equipment, production was heavily disrupted.

Solution: ICS Cool Energy created a custom-made plan of action that saw every aspect of the manufacturer's redevelopment accounted for.

ICS Cool Energy's hire division immediately supplied a chiller and air blast unit on a short term hire basis allowing for production to recommence much sooner, even throughout the more time-constrictive installation of permanent units. The next stages of the project saw both the installation of a new chiller for use within the cooling of their moulding machinery, and the addition of a 480kw capacity adiabatic cooler unit to provide reliable, economical temperature control to their hydraulic circuits. This provided the plumbing equipment manufacturer with a solution that would not only to bring their facilities back into full operation, but also provide them on a long-term basis with the latest in cooling technology.

A healthier future for the Chemical/ Pharmaceutical industry

Requirement: A specialist pharmaceutical production and development firm with bases in the UK and Europe won a contract to develop a new drug for the Ministry of Defence. However, when one of its production lines was left out of action when a chiller failed whilst serving a granulation machine, the company required immediate action and turned to ICS Cool Energy for emergency cooling support.

Solution: With an understanding of both the fault and the equipment already on site, ICS Cool Energy acted fast and supplied a new and efficient temporary chiller to the facility, which was installed to restore cooling overnight, ready for the business' opening hours the very next day.

With the temporary cooling in place, the pharmaceutical specialist could continue production with complete faith in the facility and minimal downtime or knock-on effect to the business. The pharmaceutical manufacturer continues to develop and invest in line with the sector's emerging trend of prosperity, competing at the forefront of its field and embracing a truly proactive stance in the face of an increasingly global style of business.

Keeping the UK's largest Food and Beverage firm at the top of the food chain

Requirement: A major manufacturer of food, drink and refreshments enjoyed by millions of people worldwide on a daily basis, required a specialist cooling solution for their syrup cooling processes at their new state-of-the-art soft drink production facilities.

Solution: ICS Cool Energy recommended a 1 Off chiller to work in partnership with a 1 Off plate heat exchanger. Having moved the new cooling equipment into place on-site, ICS Cool Energy began the installation process by entering the existing thermally insulated pipework and routing a new line above the system's valves and vessel.

With this in place, the piping could then feed directly into the new plate heat exchanger unit. Following the installation, the system was re-connected back into the existing network of pipework, allowing the company's newly enhanced production processes and the new temperature control units to begin operation.

i-CHILLER

ICS Cool Energy is proud to push the boundaries of modern, energy efficient cooling with the launch of their i-Chiller range of industrial chillers, that are available for sale or hire world-wide.

Taking over from its time-tested predecessor, the TAEevo, the i-Chiller range of air-cooled chillers are at the cutting edge of cooling technology and have been specifically designed for use in industrial applications, are compact, energy efficient and environmentally friendly.

Placing efficiency at its heart, the innovative evaporator-in tank configuration ensures reduced ambient heat gain and a steady temperature of the process fluids.

All units are manufactured to ISO 9001, 14001 and Eurovent accreditation standards, ensuring the highest levels of performance and quality.

Environmentally Friendly Innovation

R410A

In support of the European Union's legislation regarding the phase out of R22 gas, the i-Chiller range utilises the most sustainable R410A refrigerant, with R407C and R134a gases used in smaller capacity models. The R410A refrigerant offers an improved carbon footprint, helping to lower the impact of each and every process, safeguarding both your business and the natural environment for the foreseeable future.

Quality Assured

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Eurovent

All i-Chiller products are fully certified by Eurovent. ICS Cool Energy has obtained the Eurovent certification, adhering to the LCP programme.

Factory Testing

ISOQAR UKAS

All models are individually tested to ensure quality assurance in line with ISO9001.

A full check of the refrigerant charge, leakage controls and micro compressor is completed before every delivery ensuring long-term, sustainable standard of reliability.

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Intelligent Engineering

ICS Cool Energy's i-Chiller range of units feature efficient hermetic scroll compressors which operate at low power level, saving energy throughout operation. Supporting this environmental stance, the units feature highly efficient finned coil evaporators.

User-friendly digital Microprocessor

In addition to leading energy efficiency and environmentally friendly refrigerants, the i-Chiller incorporates the latest technology with unique digital control.

Complete Reliability

Taking on the mantle and building on the preceding TAEevo's reputation for providing truly reliable cooling, all i-Chiller products are produced with performance in mind and with component safety considered at every stage, with phase monitoring, pressure switches, glycol level sensor, crankcase heaters and an internal hydraulic bypass circuit all integral to the system's core.

i-CHILLER

Packaged Air and Water Cooled Chillers

Evaporator-in-tank configuration

The i-Chiller units feature highly efficient finned coil heat exchangers with copper pipes and aluminum fins. Installed within the storage tank, the evaporator offers reduced ambient heat gain and a stable temperature of the process fluid. This process fluid flows in contact with the finned surface which is cooled by the refrigerant inside the tubes allowing the innovative i-Chiller to operate with high flow rates and lowered pressure drops for maximum reliability when working in heavily industrial applications.

Furthermore, there is no risk of the heat exchanger freezing thanks to a temperature sensor and control which allows the compressors to turn off in case of a fault.

Pumps

The pumps which feature in the i-Chiller range are centrifugal with silicon seals available in two different configurations:

Pump P3 – nominal head pressure 3 bar, stainless steel water side mod: iC215-iC525 and cast iron mod: iC530-iC660.

Pump P5 - nominal head pressure 5 bar, stainless steel water side mod: 0151-161 and cast iron mod: iC520-iC660. Models iC520-iC660 are also available in the configuration with double pump P3 and P5 or P5 and P5 with automatic switching.

Scroll Compressors

The compressors feature orbiting scrolls with two-pole electric motors which are mounted on anti-vibration rubber dampers offering protection against overheating, excessive currents and high temperature exhaust gases. The axial/radial compliance combined with compact sizing of the rotating components and the absence of suction and discharge valves allows for reduced energy consumptions, lowered vibrations due to less moving parts and high resistance to liquid refrigerant returns.

iC215 - iC660
Eurovent accredited range.

ECA approved
Enhanced capital allowances are available for a selection of units within the range: iC220, iC410 - iC416, iC525 - iC530, iC650 - iC660.

Electric Panel

The controller is electronically separated from the power section through the use of a transformer. The electronic section is fitted with main interlocked door which prevents access while the power supply is on. The electrical equipment is compliant with EN 60204-1 featuring an electrical panel protection degree IP44 compliant with EN 60529. The i-Chiller is fully tested for electromagnetic compatibility in-line with EMC standards. A phase monitor also provides protection against phase loss and reversal.

Condenser Section

- The copper/aluminum air-cooled condenser fins are fitted on one side only which reduces space requirements and can work efficiently at high ambient temperatures of up to 46˚C. The chiller model features an aluminum cleanable air filter as standard.

Structure

The i-Chiller range is manufactured using heavy duty galvanized carbon steel panels protected by an epoxy polyester coating (RAL 7035, base RAL 5013). The stability of the base allow easy and secure handling of the unit with a forklift.

Multiple Components

Units feature two compressors (mod iC520 – iC535) which provides accurate control of the cooling capacity. Models between iC640 and iC660 feature four compressors within two circuits which offer maximum energy efficiency levels at both full and partial loads as well as compressor rotation and unloading functions.

Optional Ancillaries

Atmospheric Pressure Kit

The kit is installed at the back of the i-Chiller and features a generous water tank with an easy to read water level indicator, encased within a tough painted steel cabinet. The kit features a tap making it easy to fill the water tank directly.

Pressurised Fill Kit

This pressurised fill kit is ideal for pressurised hydraulic circuits (up to 6 barg). The kit provides components required for safety and ease of operation including a pressure reducer, water inlet valve, pressure gauge, automatic safety relief valve, auto air vent and expansion tank.

Remote Control Options

There are two remote control options available for these units:

- **Simple remote control module (ON/OFF unit status) for installation up to 150m away from the unit**

- **Advanced remote controls featuring LED display for installation of up to 150m away from the unit**

Remote X

Remote access connectivity to your i-Chiller, 24/7. Can monitor up to 4 chillers simultaneously, and provide more convenient improved control for the end user.

EC Brush-less Axial Fans

The modern EX axial fans offer high pressure (max 150 Pa) and operate by a synchronous electric motor featuring permanent magnets and inverter speed control. The innovative brush-less fan technology features reduced electrical consumption and an increase in both reliability and outright energy efficiency.

Certified Performance

Each and every i-Chiller unit is certified by Eurovent and adhere to the LCP programme which is becoming one of the few companies to operate within the industrial sector, boasting huge achievement.

i-CHILLER

Installation and Commissioning

With experience of over **50,000** projects world-wide, ICS Cool Energy is proud to have been able to support their customers through the provision of energy-efficient equipment for turnkey installations and commissioning requirements.

Turnkey contracts consist of one or all of the following:

- Mechanical pipework designed in a variety of appropriate materials
- Thermal insulation
- Off loading and positioning plan
- In-house project management

The i-Chiller has been designed to provide optimum performance to process and comfort applications within the following industries

Maximum reliability, no matter what the application

Chemical and Pharmaceutical

- Jacketed Vessels
- Form Mixers
- Laboratories
- X Rays
- Natural Gases
- Cleaning
- Healthcare
- CT Scanners

Food and Beverage

- Confectionery
- Bakeries
- Distilleries
- Breweries
- Wineries
- Vegetable and Salad processing
- Dairies
- Bottling
- Carbonation
- Meat and Fish processing
- Storage

Engineering and Manufacturing

- Machine Tools
- Welding
- Rolling Mills
- Polishing
- Hydraulic Control unit oil cooling
- Vegetable and Salad processing
- Pneumatic Transport

Lasers

- Cutting
- Welding
- Profiling
- Optics
- Medical
- Engraving

Plastics and Rubber

- Presses
- Extrusion
- Thermoforming
- Injection Moulding
- Blow Moulding

i-CHILLER iC003 - iC110

Features

- Refrigerant R407C; (iC105 & iC110) and R134a (iC003)
- Hermetic reciprocating compressor (iC003); rotary compressor (iC105 & iC110)
- High-efficiency finned coil evaporator with copper tubes and aluminium fins, installed inside the water storage tank
- Axial fans
- Air-cooled condensers (copper tubes/aluminium fins) fitted on one side of the chiller
- Storage tank (design pressure 6 barg) complete with P3 pump, filling/drain valve, pressure gauge
- Internal hydraulic bypass between the inlet and outlet connections
- Electronic level sensor with water conductivity function
- High and low refrigerant pressure switches
- IP33 (iC105 & iC110) and IP20 (iC003) protection rating
- Phase monitor against phase loss and phase reversal
- Compressor crankcase heater

50 Hz		iC003	iC105	iC110
Cooling capacity (1)	kW	1.4	2.5	4.4
Total absorbed power (1)	kW	0.5	0.73	1.32
General data				
Refrigerant	-	R134a	R407C	
Protection class	-	IP20	IP33	
Total installed power 50 Hz (2)	kW	1.03	-	-
Total installed power 50 Hz / 60 Hz (2)	kW	-	-	-
Cooling circuits / Compressors for circuit	N°	1 / 1	1 / 1	1 / 1
Capacity control	%	-	-	-
Electrical power supply (2)				
Power	V/Ph/Hz		230±10%/1/50	
Axial fans	-	-	-	-
Fans number	N°	1	1	1
Total airflow	m³/h	900	2200	2100
Power (each) 50 Hz	kW	0.065	0.146	0.146
Power (each) 50 Hz / 60 Hz	kW	-	-	-
Centrifugal fans/high pressure axials fans				
Fans number	N°	-	-	-
Total airflow	m³/h	-	-	-
Available head pressure	Pa	-	-	-
Power (each)	kW	-	-	-
Hydraulic group				
Water flow rate P3 (min/max)	m³/h	0.24/0.34	0.43/1.2	0.76/1.2
Available pump head pressure P3	barg	1.18/0.54	2.78/0.46	2.78/0.46
Nominal power P3	kW	0.25	0.33	0.33
Water flow rate P5 (min/max)	m³/h	-	-	-
Available pump head pressure P5	barg	-	-	-
Nominal power P5	kW	-	-	-
Water flow rate P3 (min/max)	m³/h	-	-	-
Available pump head pressure P3 (50 Hz)	barg	-	-	-
Available pump head pressure P3 (60 Hz)	barg	-	-	-
Nominal power P3	kW	-	-	-
Tank volume	l	-	-	-
Max pressure	barg	-	-	-
Water connections	Rp	-	-	-
Sound levels (2) (3) - 50 Hz				
Sound pressure with axial fans	dB (A)	-	-	-
Sound pressure with centr.fans /high pressure axial fans	dB (A)	-	-	-
Dimensions and installed weight (4)				
Width	mm	325	575	575
Length	mm	728	652	652
Height	mm	540	805	805
Weight without pump	kg	-	-	-
Weight with P3	kg	63	106	113
Weight with P5	kg	-	-	-

50 Hz version

Dual Freq.

Benefits

- Cutting-edge evaporator provides high flow rates with low pressure drops
- High-efficiency, energy-saving hermetic reciprocating compressor and rotary compressor
- 1.4kW - 4.4kW cooling capacity
- The cold water tank keeps outlet water temperature consistent despite varying load conditions

i-CHILLER iC215 - iC220

Features

- Refrigerant R410A
- Hermetic Scroll compressors
- High-efficiency finned coil evaporator with copper tubes and aluminium fins, installed inside the water storage tank
- Axial fans
- Air-cooled condensers (copper tubes/aluminium fins) fitted on one side of the chiller
- Storage tank (design pressure 6 barg) complete with P3 pump, filling/drain valve, pressure gauge
- Internal hydraulic bypass between the inlet and outlet connections
- Electronic level sensor with water conductivity function;
- High and low refrigerant pressure switches
- Innovative i-Chill microprocessor
- IP44 protection rating
- Phase monitor against phase loss and phase reversal
- Compressor crankcase heater.

50 Hz		iC215	iC220
Cooling capacity (1)	kW	7.00	8.30
Total absorbed power (1)	kW	1.95	1.77
Dual-frequency - 60 Hz			
Cooling capacity (1)	kW	8.48	9.98
Total absorbed power (1)	kW	2.38	2.17
General data			
Refrigerant	-	R410A	
Protection class	-	IP44	
Total installed power 50 Hz (2)	kW	3.8	3.9
Total installed power 50 Hz / 60 Hz (2)	kW	4.0 / 5.2	4.1 / 5.4
Cooling circuits / Compressors for circuit	N°	1 / 1	1 / 1
Capacity control	%	0-100	0-100
Electrical power supply (2)			
Power	V/Ph/Hz	400±10%/3-PE/50-(460±10%/3-PE/60 dual-frequency version)	
Axial fans	-	-	-
Fans number	N°	1	1
Total airflow	m³/h	3500	3150
Power (each) 50 Hz	kW	0.203	0.203
Power (each) 50 Hz / 60 Hz	kW	0.29/0.45	0.29/0.45
Centrifugal fans/high pressure axials fans			
Fans number	N°	-	-
Total airflow	m³/h	-	-
Available head pressure	Pa	-	-
Power (each)	kW	-	-
Hydraulic group			
Water flow rate P3 (min/max)	m³/h	0.4/4.8	0.4/4.8
Available pump head pressure P3	barg	3.0/1.4	3.0/1.4
Nominal power P3	kW	0.55	0.55
Water flow rate P5 (min/max)	m³/h	0.4/4.8	0.4/4.8
Available pump head pressure P5	barg	5.4/3.0	5.4/3.0
Nominal power P5	kW	1.1	1.1
Water flow rate P3 (min/max)	m³/h	0.4/4.8	0.4/4.8
Available pump head pressure P3 (50 Hz)	barg	3.1/2.0	3.1/2.0
Available pump head pressure P3 (60 Hz)	barg	4.4/2.8	4.4/2.8
Nominal power P3	kW	1.1	1.1
Tank volume	l	60	60
Max pressure	barg	6	6
Water connections	Rp	3/4"	3/4"
Sound levels (2) (3) - 50 Hz			
Sound pressure with axial fans	dB (A)	52.4	52.4
Sound pressure with centr.fans /high pressure axial fans	dB (A)	-	-
Dimensions and installed weight (4)			
Width	mm	560	560
Length	mm	1265	1265
Height	mm	794	794
Weight without pump	kg	194	198
Weight with P3	kg	206	210
Weight with P5	kg	212	216

50 Hz version

Dual Freq.

• The iC215 & iC220 range are available as duel frequency units as 400V/3ph/50 Hz to 460V/3ph/60 Hz.

Benefits

- Environmentally-friendly R410a refrigerant
- Cutting-edge evaporator provides high flow rates with low pressure drops
- High-efficiency, energy-saving Scroll compressor
- The i-Chillers flexibility can tolerate return temperatures as high as 35°C or deliver glycol solutions as low as -10°C (to -20°C on request). Whilst operating in ambients as high as 46°C or down to -5°C (On request ambients can be as high as 50°C or as low as -20°C)
- The cold water tank keeps outlet water temperature consistent despite varying load conditions

i-CHILLER iC303 - iC305

Features

- Refrigerant R410A
- Hermetic Scroll compressors
- High-efficiency finned coil evaporator with copper tubes and aluminium fins, installed inside the water storage tank
- Axial fans with die-cast aluminium, crescent-shaped blades
- Air-cooled condensers (copper tubes/aluminium fins) fitted on one side of the chiller
- Storage tank (design pressure 6 barg) complete with P3 pump, filling/drain valve, pressure gauge
- Internal hydraulic bypass between the inlet and outlet connections
- Electronic level sensor with water conductivity function
- High and low refrigerant pressure switches
- Innovative i-Chill microprocessor
- IP54 protection rating
- Phase monitor against phase loss and phase reversal
- Compressor crankcase heater

50 Hz		iC303	iC305
Cooling capacity (1)	kW	13.3	19.4
Total absorbed power (1)	kW	3.08	4.29
Dual-frequency - 60 Hz			
Cooling capacity (2)	kW	15.9	22.7
Total absorbed power (2)	kW	3.77	5.41
General data			
Refrigerant	-	R410A	
Protection class	-	IP54	
Total installed power 50 Hz (2)	kW	5.7	7.4
Total installed power 50 Hz / 60 Hz (2)	kW	5.6 / 7.4	7.3 / 9.3
Cooling circuits / Compressors for circuit	N°	1 / 1	1 / 1
Capacity control	%	0-100	0-100
Electrical power supply (2)			
Power	V/Ph/Hz	400±10%/3-PE/50-(460±10%/3-PE/60 dual-frequency version)	
Axial fans	-	-	-
Fans number	N°	1	1
Total airflow	m³/h	6500	6150
Power (each) 50 Hz	kW	0.48	0.48
Power (each) 50 Hz / 60 Hz	kW	0.48/0.76	0.48/0.76
Centrifugal fans/high pressure axials fans			
Fans number	N°	1	1
Total airflow	m³/h	6600	6000
Available head pressure	Pa	159	188
Power (each)	kW	1.1	1.1
Hydraulic group			
Water flow rate P3 (min/max)	m³/h	0.7/6	0.9/6
Available pump head pressure P3	barg	3.1/1.6	3.0/1.5
Nominal power P3	kW	0.75	0.75
Water flow rate P5 (min/max)	m³/h	0.7/4.3	0.9/4.5
Available pump head pressure P5	barg	5.3/3.7	5.2/3.5
Nominal power P5	kW	1.1	1.1
Water flow rate P3 (min/max)	m³/h	0.4/4.8	0.4/4.8
Available pump head pressure P3 (50 Hz)	barg	3.1/2.0	3.1/2.0
Available pump head pressure P3 (60 Hz)	barg	4.4/2.8	4.4/2.8
Nominal power P3	kW	1.1	1.1
Tank volume	l	115	115
Max pressure	barg	6	6
Water connections	Rp	1"	1"
Sound levels (2) (3) - 50 Hz			
Sound pressure with axial fans	dB (A)	53.1	53.1
Sound pressure with centr.fans /high pressure axial fans	dB (A)	58.8	58.8
Dimensions and installed weight (4)			
Width	mm	660	660
Length	mm	1310	1310
Height	mm	1400	1400
Weight without pump	kg	320	339
Weight with P3	kg	333	351
Weight with P5	kg	337	356

Dual Freq. - 50 Hz version

•Class A, High efficiency version available with oversized condensing coils, scroll compressors and leading high efficiency EC brush-less axial inverter fans.

Benefits

- Environmentally-friendly R410a refrigerant
- Cutting-edge evaporator provides high flow rates with low pressure drops
- High-efficiency, energy-saving Scroll compressor
- The i-Chillers flexibility can tolerate return temperatures as high as 35°C or deliver glycol solutions as low as -10°C (to -20°C on request). Whilst operating in ambients as high as 46°C or down to -5°C (On request ambients can be as high as 50°C or as low as -20°C)
- The cold water tank keeps outlet water temperature consistent despite varying load conditions

i-CHILLER iC408 - iC416

Features

- Refrigerant R410A
- Hermetic Scroll compressors
- High-efficiency finned coil evaporator with copper tubes and aluminium fins, installed inside the water storage tank
- Axial fans with die-cast aluminium, crescent-shaped blades
- Air-cooled condensers (copper tubes/aluminium fins) fitted on one side of the chiller inclusive of air filter
- Storage tank (design pressure 6 barg) complete with P3 pump, filling/drain valve, pressure gauge
- Internal hydraulic bypass between the inlet and outlet connections
- Electronic level sensor with water conductivity function
- High and low refrigerant pressure switches
- Pressure gauges
- Innovative i-Chill microprocessor
- IP54 protection rating
- Phase monitor against phase loss and phase reversal;
- Compressor crankcase heater.

50 Hz		iC408	iC410	iC412	iC416
Cooling capacity (1)	kW	30.1	39.2	48.3	55.5
Total absorbed power (1)	kW	7.31	8.40	10.6	13.6
Dual-frequency - 60 Hz					
Cooling capacity (1)	kW	35.4	45.7	55.9	64.2
Total absorbed power (1)	kW	8.98	10.6	13.3	17.0
General data					
Refrigerant	-	R410A			
Protection class	-	IP54			
Total installed power 50 Hz (2)	kW	12.0	14.4	18.3	20.5
Total installed power 50 Hz / 60 Hz (2)	kW	12.5 / 15.4	14.9 / 18.3	17.8 / 22.6	20.1 / 25.3
Cooling circuits / Compressors for circuit	N°	1 / 1	1 / 1	1 / 1	1 / 1
Capacity control	%	0-100	0-100	0-100	0-100
Electrical power supply (2)					
Power	V/Ph/Hz	400±10%/3-PE/50-(460±10%/3-PE/60 dual-frequency version)			
Axial fans	-	-	-	-	-
Fans number	N°	1	2	2	2
Total airflow	m³/h	8150	14200	13600	13600
Power (each) 50 Hz	kW	0.71	0.71	0.71	0.71
Power (each) 50 Hz / 60 Hz	kW	0.69/1.03	0.69/1.03	0.69/1.03	0.69/1.03
Centrifugal fans/high pressure axials fans					
Fans number	N°	2	2	2	2
Total airflow	m³/h	9200	12800	12800	12800
Available head pressure	Pa	265	134	115	115
Power (each)	kW	1.1	1.1	1.1	1.1
Hydraulic group					
Water flow rate P3 (min/max)	m³/h	1.9/9.1	2.1/9.3	2.6/18	3.2/18
Available pump head pressure P3	barg	3.0/1.5	2.9/1.6	2.8/1.7	2.8/1.7
Nominal power P3	kW	0.9	0.9	1.85	1.85
Water flow rate P5 (min/max)	m³/h	1.9/12.6	2.1/12.6	2.6/12.6	3.2/12.6
Available pump head pressure P5	barg	5.2/3.2	5.2/3.6	5.2/3.6	5.1/3.7
Nominal power P5	kW	2.2	2.2	2.2	2.2
Water flow rate P3 (min/max)	m³/h	2.3/9.0	2.3/9.0	3.5/16.2	3.5/16.2
Available pump head pressure P3 (50 Hz)	barg	3.1/1.9	3.1/1.9	2.4/2.0	2.4/2.0
Available pump head pressure P3 (60 Hz)	barg	4.3/2.9	4.3/2.9	3.4/2.5	3.4/2.5
Nominal power P3	kW	2.2	2.2	2.2	2.2
Tank volume	l	140	255	255	255
Max pressure	barg	6	6	6	6
Water connections	Rp	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Sound levels (2) (3) - 50 Hz					
Sound pressure with axial fans	dB (A)	53.6	54.1	54.1	55.0
Sound pressure with centr.fans /high pressure axial fans	dB (A)	61.2	61.2	61.2	61.2
Dimensions and installed weight (4)					
Width	mm	760	760	760	760
Length	mm	1865	1865	1865	1865
Height	mm	1447	1447	1447	1447
Weight without pump	kg	451	613	626	650
Weight with P3	kg	464	626	643	667
Weight with P5	kg	477	639	652	676

Dual Freq. - 50 Hz version

•Class A, High efficiency version available with oversized condensing coils, scroll compressors and leading high efficiency EC brush-less axial inverter fans.

Benefits

- Environmentally-friendly R410a refrigerant
- Cutting-edge evaporator provides high flow rates with low pressure drops
- High-efficiency, energy-saving Scroll compressor
- The i-Chillers flexibility can tolerate return temperatures as high as 35°C or deliver glycol solutions as low as -10°C (to -20°C on request). Whilst operating in ambients as high as 46°C or down to -5°C (On request ambients can be as high as 50°C or as low as -20°C)
- The cold water tank keeps outlet water temperature consistent despite varying load conditions

i-CHILLER iC520 - iC535

Features

- Refrigerant R410A
- Hermetic Scroll compressors
- High-efficiency finned coil evaporator with copper tubes and aluminium fins, installed inside the water storage tank
- Axial fans with die-cast aluminium, crescent-shaped blades
- Air-cooled condensers (copper tubes/aluminium fins) fitted on one side of the chiller inclusive of air filter
- Storage tank (design pressure 6 barg) complete with P3 pump, filling/drain valve, pressure gauge
- Internal hydraulic bypass between the inlet and outlet connections
- Electronic level sensor with water conductivity function
- High and low refrigerant pressure switches
- Pressure gauges
- Innovative i-Chill microprocessor
- IP54 protection rating
- Phase monitor against phase loss and phase reversal
- Compressor crankcase heater

	50 Hz		iC520	iC525	iC530	iC535
	Cooling capacity (1)	kW	64.1	75.7	84.1	96.2
	Total absorbed power (1)	kW	14.7	18.1	19.1	23.7
	General data					
	Refrigerant	-	R410A			
	Protection class	-	IP54			
	Total installed power 50 Hz (2)	kW	23.7	27.0	31.1	36.3
	Total installed power 50 Hz / 60 Hz (2)	kW	-	-	-	-
	Cooling circuits / Compressors for circuit	N°	1 / 2	1 / 2	1 / 2	1 / 2
	Capacity control	%	0-50-100	0-50-100	0-50-100	0-50-100
	Electrical power supply (2)					
	Power	V/Ph/Hz	400 ± 10% / 3 - PE / 50			
	Axial fans	-	-	-	-	-
	Fans number	N°	2	2	3	3
	Total airflow	m³/h	16200	16000	22200	21600
	Power (each) 50 Hz	kW	0.71	0.71	0.71	0.71
	Power (each) 50 Hz / 60 Hz	kW	-	-	-	-
	Centrifugal fans/high pressure axials fans					
	Fans number	N°	2	2	3	3
	Total airflow	m³/h	14600	14600	20100	20100
	Available head pressure	Pa	151	144	150	142
	Power (each)	kW	0.9	0.9	0.9	0.9
	Hydraulic group					
50 Hz version	Water flow rate P3 (min/max)	m³/h	3.4/18	3.4/18	4.8/27	5.6/27
50 Hz version	Available pump head pressure P3	barg	2.8/2.1	2.8/2.1	3.3/0.9	3.3/0.9
50 Hz version	Nominal power P3	kW	1.85	1.85	2.2	2.2
50 Hz version	Water flow rate P5 (min/max)	m³/h	3.4/27	3.4/27	4.8/27	5.6/27
50 Hz version	Available pump head pressure P5	barg	5.2/2.4	5.2/2.4	5.1/2.4	5.1/2.4
50 Hz version	Nominal power P5	kW	4	4	4	4
Dual Freq.	Water flow rate P3 (min/max)	m³/h	-	-	-	-
Dual Freq.	Available pump head pressure P3 (50 Hz)	barg	-	-	-	-
Dual Freq.	Available pump head pressure P3 (60 Hz)	barg	-	-	-	-
Dual Freq.	Nominal power P3	kW	-	-	-	-
	Tank volume	l	350	350	350	350
	Max pressure	barg	6	6	6	6
	Water connections	Rp	2"	2"	2"	2"
	Sound levels (2) (3) - 50 Hz					
	Sound pressure with axial fans	dB (A)	56.3	56.3	58.0	58.0
	Sound pressure with centrifans /high pressure axial fans	dB (A)	57.0	57.0	58.7	58.7
	Dimensions and installed weight (4)					
	Width	mm	865	865	865	865
	Length	mm	2255	2255	2255	2255
	Height	mm	2065	2065	2065	2065
	Weight without pump	kg	957	1018	999	1020
	Weight with P3	kg	974	1035	1038	1059
	Weight with P5	kg	1011	1072	1053	1074

*• **Class A**, High efficiency version available with oversized condensing coils, scroll compressors and leading high efficiency EC brush-less axial inverter fans.*

Benefits

- Environmentally-friendly R410a refrigerant
- Cutting-edge evaporator provides high flow rates with low pressure drops
- High-efficiency, energy-saving Scroll compressor
- The i-Chillers flexibility can tolerate return temperatures as high as 35°C or deliver glycol solutions as low as -10°C (to -20°C on request). Whilst operating in ambients as high as 46°C or down to -5°C (On request ambients can be as high as 50°C or as low as -20°C)
- The cold water tank keeps outlet water temperature consistent despite varying load conditions

i-CHILLER iC640 - iC660

Features

- Refrigerant R410A
- Hermetic Scroll compressors
- High-efficiency finned coil evaporator with copper tubes and aluminium fins, installed inside the water storage tank
- Axial fans with die-cast aluminium, crescent-shaped blades
- Air-cooled condensers (copper tubes/aluminium fins) fitted on one side of the chiller inclusive of air filter
- Storage tank (design pressure 6 barg) complete with P3 pump, filling/drain valve, pressure gauge
- Internal hydraulic bypass between the inlet and outlet connections
- Electronic level sensor with water conductivity function
- High and low refrigerant pressure switches
- Pressure gauges
- Innovative i-Chill microprocessor
- IP54 protection rating
- Phase monitor against phase loss and phase reversal
- Compressor crankcase heater

	50 Hz		iC640	iC650	iC660
	Cooling capacity (1)	kW	123.2	146.4	166.1
	Total absorbed power (1)	kW	29.4	33.6	38.8
	General data				
	Refrigerant	-	R410A		
	Protection class	-	IP54		
	Total installed power 50 Hz (2)	kW	48.9	55.5	61.4
	Total installed power 50 Hz / 60 Hz (2)	kW	-	-	-
	Cooling circuits / Compressors for circuit	N°	2 / 2	2 / 2	2 / 2
	Capacity control	%	0-25-50-75-100	0-25-50-75-100	0-25-50-75-100
	Electrical power supply (2)				
	Power	V/Ph/Hz	400 ± 10% / 3 - PE / 50		
	Axial fans	-	-	-	-
	Fans number	N°	2	2	2
	Total airflow	m³/h	45800	44400	42800
	Power (each) 50 Hz	kW	2.1	2.1	2.1
	Power (each) 50 Hz / 60 Hz	kW	-	-	-
	Centrifugal fans/high pressure axials fans				
	Fans number	N°	2	2	2
	Total airflow	m³/h	40000	40000	40000
	Available head pressure	Pa	198	185	172
	Power (each)	kW	2.8	2.8	2.8
	Hydraulic group				
50 Hz version	Water flow rate P3 (min/max)	m³/h	6.6/48	8.1/48	9.4/48
50 Hz version	Available pump head pressure P3	barg	3.9/1.5	3.8/1.5	3.8/1.5
50 Hz version	Nominal power P3	kW	4	4	4
50 Hz version	Water flow rate P5 (min/max)	m³/h	6.6/48	8.1/48	9.4/48
50 Hz version	Available pump head pressure P5	barg	5.5/3.1	5.5/3.1	5.5/3.1
50 Hz version	Nominal power P5	kW	7.5	7.5	7.5
Dual Freq.	Water flow rate P3 (min/max)	m³/h	-	-	-
Dual Freq.	Available pump head pressure P3 (50 Hz)	barg	-	-	-
Dual Freq.	Available pump head pressure P3 (60 Hz)	barg	-	-	-
Dual Freq.	Nominal power P3	kW	-	-	-
	Tank volume	l	500	500	500
	Max pressure	barg	6	6	6
	Water connections	Rp	2 1/2"	2 1/2"	2 1/2"
	Sound levels (2) (3) - 50 Hz				
	Sound pressure with axial fans	dB (A)	61.5	61.5	61.5
	Sound pressure with centrifans /high pressure axial fans	dB (A)	63.1	63.1	63.1
	Dimensions and installed weight (4)				
	Width	mm	1255	1255	1255
	Length	mm	3295	3295	3295
	Height	mm	2159	2159	2159
	Weight without pump	kg	1654	1703	1730
	Weight with P3	kg	1701	1750	1777
	Weight with P5	kg	1733	1782	1809

*• **Class A**, High efficiency version available with oversized condensing coils, scroll compressors and leading high efficiency EC brush-less axial inverter fans.*

Benefits

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- High-efficiency, energy-saving Scroll compressor
- The i-Chillers flexibility can tolerate return temperatures as high as 35°C or deliver glycol solutions as low as -10°C (to -20°C on request). Whilst operating in ambients as high as 46°C or down to -5°C (On request ambients can be as high as 50°C or as low as -20°C)
- The cold water tank keeps outlet water temperature consistent despite varying load conditions

50 Hz					iC003	iC105	iC110	iC215	iC220	iC303	iC305	iC408	iC410	iC412	iC416	iC520	iC525	iC530	iC535	iC640	iC650	iC660
Cooling capacity (1)				kW	1.4	2.5	4.4	7	8.3	13.3	19.4	30.1	39.2	48.3	55.5	64.1	75.7	84.1	96.2	123.2	146.4	166.1
Total absorbed power (1)				kW	0.5	0.73	1.32	1.95	1.77	3.08	4.29	7.31	8.4	10.6	13.6	14.7	18.1	19.1	23.7	29.4	33.6	38.8
Dual-frequency - 60 Hz																						
Cooling capacity (1)				kW	-	-	-	8.48	9.98	15.9	22.7	35.4	45.7	55.9	64.2	-	-	-	-	-	-	-
Total absorbed power (1)				kW	-	-	-	2.38	2.17	3.77	5.41	8.98	10.6	13.3	17	-	-	-	-	-	-	-
General data																						
Refrigerant				-	R134a	R407C	R410A															
Protection class				-	IP20	IP33	IP44	IP54														
Total installed power 50 Hz (2)				kW	-	-	-	3.8	3.9	5.7	7.4	12	14.4	18.3	20.5	23.7	27	31.1	36.3	48.9	55.5	61.4
Total installed power 50 Hz / 60 Hz (2)				kW	-	-	-	4.0 / 5.2	4.1 / 5.4	5.6 / 7.4	7.3 / 9.3	12.5 / 15.4	14.9 / 18.3	17.8 / 22.6	20.1 / 25.3	-	-	-	-	-	-	-
Cooling circuits / Compressors for circuit				N°	-	-	-	01	01	01	01	01	01	01	01	1/2	1/2	1/2	1/2	2/2	2/2	2/2
Capacity control				%	-	-	-	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-50-100	0-50-100	0-50-100	0-50-100	0-25-50-75-100	0-25-50-75-100	0-25-50-75-100
Electrical power supply (2)																						
Power				V/Ph/Hz	230310%/1/50	400 3 10% / 3 - PE / 50 - (460 3 10% / 3 - PE / 60 dual-frequency version)		400 3 10% / 3 - PE / 50														
Axial fans				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fans number				N°	-	-	-	1	1	1	1	1	2	2	2	2	2	3	3	2	2	2
Total airflow				m³/h	900	2200	2100	3500	3150	6500	6150	8150	14200	13600	13600	16200	16000	22200	21600	45800	44400	42800
Power (each) 50 Hz				kW	0.065	0.146	0.146	0.203	0.203	0.48	0.48	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	2.1	2.1	2.1
Power (each) 50 Hz / 60 Hz				kW	-	-	-	0.29/0.45	0.29/0.45	0.48/0.76	0.48/0.76	0.69/1.03	0.69/1.03	0.69/1.03	0.69/1.03	-	-	-	-	-	-	-
	Hz		model																			
Axial on/off or fan speed control	50	SP	FLI	kW				2.9	3.1	4.8	6.4	10.8	13.1	16.1	18.3	21.5	24.8	28.5	33.7	4.4	51	56.9
			FLA	A				4.9	5.3	8.4	11.1	17.8	22.2	27.1	32.8	35.7	41.6	47.9	58.5	73.9	85.8	95.6
			ICF	A				26	32	48	64	111	118	140	174	130	140	164	202	168	184	211
		P3	FLI	kW	1.0	1.6	2.1	3.8	3.9	5.7	7.4	12	14.4	18.3	20.5	23.7	27	31.1	36.3	48.9	55.5	61.4
			FLA	A	5	7.0	9.0	6.5	6.9	10.2	12.9	20.2	24.6	31.3	37	39.9	45.9	52.5	63.1	81.6	93.5	103
			ICF	A	19	23	37	28	34	50	66	113	120	144	178	134	144	168	207	176	192	219
		P5	FLI	kW				4.7	4.9	6.6	8.2	14.2	16.6	19.6	21.8	26	29.3	33	38.2	52.8	59.4	65.3
			FLA	A				8.1	8.5	11.6	14.3	23.9	28.3	33.2	38.9	43.3	49.3	55.5	66.1	87.9	99.8	110
			ICF	A				29	35	51	67	117	124	146	180	138	148	171	210	182	198	225
Centrifugal/High pressure axial on/off and step	50	SP	FLI	kW	-	-	-	-	-	6.8	8.4	15.1	16.7	19.7	21.9	21.9	25.2	29	34.2	45.6	52.2	58.1
			FLA	A	-	-	-	-	-	12.4	15	26.2	29.2	34.1	39.8	35.8	41.8	48.1	58.7	73.9	85.8	95.6
			ICF	A	-	-	-	-	-	48	64	111	118	140	174	130	140	164	203	168	184	211
		P3	FLI	kW	-	-	-	-	-	7.8	9.4	16.4	18	21.9	24.1	24.1	27.4	31.6	36.8	50.1	56.7	62.6
			FLA	A	-	-	-	-	-	14.1	16.8	28.6	31.6	38.3	44	40	46	52.7	63.3	81.6	93.5	103
			ICF	A	-	-	-	-	-	50	66	113	120	144	178	135	145	168	207	176	192	219
		P5	FLI	kW	-	-	-	-	-	8.6	10.2	18.6	20.2	23.2	25.4	26.4	29.7	33.5	38.7	54	60.6	66.5
			FLA	A	-	-	-	-	-	15.6	18.2	32.3	35.3	40.2	45.9	43.4	49.4	55.7	66.3	87.9	99.8	110
			ICF	A	-	-	-	-	-	51	67	117	124	146	180	138	148	171	210	182	198	225
Dual Frequency																						
Axial with on/off	50	SP	FLI	kW	-	-	-	3.1	3.2	4.8	6.4	10.7	13.1	16	18.3	-	-	-	-	-	-	-
			FLA	A	-	-	-	5	5.4	8.4	11.1	17.8	22.1	27	32.7	-	-	-	-	-	-	-
			ICF	A	-	-	-	26	32	48	64	111	118	140	174	-	-	-	-	-	-	-
		P3	FLI	kW	-	-	-	4	4.1	5.6	7.3	12.5	14.9	17.8	20.1	-	-	-	-	-	-	-
			FLA	A	-	-	-	6.9	7.3	10.3	13	21.4	25.7	30.6	36.3	-	-	-	-	-	-	-
			ICF	A	-	-	-	28	34	50	66	115	122	144	178	-	-	-	-	-	-	-
Axial with on/off	60	SP	FLI	FLI	-	-	-	3.8	4	5.9	7.9	13.1	16.1	19.6	22.4	-	-	-	-	-	-	-
			FLA	FLA	-	-	-	5.3	5.7	8.9	11.3	18.7	23.3	28.4	34.3	-	-	-	-	-	-	-
			ICF	ICF	-	-	-	27	31	46	62	114	125	150	173	-	-	-	-	-	-	-
		P3	FLI	kW	-	-	-	5.2	5.4	7.4	9.3	15.4	18.3	22.6	25.3	-	-	-	-	-	-	-
			FLA	A	-	-	-	7.6	8	11.2	13.6	22.4	27	32.9	38.9	-	-	-	-	-	-	-
			ICF	A	-	-	-	29	33	48	64	118	129	155	178	-	-	-	-	-	-	-
Centrifugal fans/high pressure axial fans																						
Fans number				N°	-	-	-	-	-	1	1	2	2	2	2	2	2	3	3	2	2	2
Total airflow				m³/h	-	-	-	-	-	6600	6000	9200	12800	12800	12800	14600	14600	20100	20100	40000	40000	40000
Available head pressure				Pa	-	-	-	-	-	159	188	265	134	115	115	151	144	150	142	198	185	172
Power (each)				kW	-	-	-	-	-	1.1	1.1	1.1	1.1	1.1	1.1	0.9	0.9	0.9	0.9	2.8	2.8	2.8
Hydraulic group																						
Water flow rate P3 (min/max)				m³/h	0.24/0.34	0.43/1.2	0.76/1.2	0.4/4.8	0.4/4.8	0.7/6	0.9/6	1.9/9.1	2.1/9.3	2.6/18	3.2/18	3.4/18	3.4/18	4.8/27	5.6/27	6.6/48	8.1/48	9.4/48
Available pump head pressure P3				barg	1.18/0.54	2.78/0.46	2.78/0.46	3.0/1.4	3.0/1.4	3.1/1.6	3.0/1.5	3.0/1.5	2.9/1.6	2.8/1.7	2.8/1.7	2.8/2.1	2.8/2.1	3.3/0.9	3.3/0.9	3.9/1.5	3.8/1.5	3.8/1.5
Nominal power P3				kW	0.25	0.33	0.33	0.55	0.55	0.75	0.75	0.9	0.9	1.85	1.85	1.85	1.85	2.2	2.2	4	4	4
Water flow rate P5 (min/max)				m³/h	-	-	-	0.4/4.8	0.4/4.8	0.7/4.3	0.9/4.5	1.9/12.6	2.1/12.6	2.6/12.6	3.2/12.6	3.4/27	3.4/27	4.8/27	5.6/27	6.6/48	8.1/48	9.4/48
Available pump head pressure P5				barg	-	-	-	5.4/3.0	5.4/3.0	5.3/3.7	5.2/3.5	5.2/3.2	5.2/3.6	5.2/3.6	5.1/3.7	5.2/2.4	5.2/2.4	5.1/2.4	5.1/2.4	5.5/3.1	5.5/3.1	5.5/3.1
Nominal power P5				kW	-	-	-	1.1	1.1	1.1	1.1	2.2	2.2	2.2	2.2	4	4	4	4	7.5	7.5	7.5
Water flow rate P3 (min/max)				m³/h	-	-	-	0.4/4.8	0.4/4.8	0.4/4.8	0.4/4.8	2.3/9.0	2.3/9.0	3.5/16.2	3.5/16.2	-	-	-	-	-	-	-
Available pump head pressure P3 (50 Hz)				barg	-	-	-	3.1/2.0	3.1/2.0	3.1/2.0	3.1/2.0	3.1/1.9	3.1/1.9	2.4/2.0	2.4/2.0	-	-	-	-	-	-	-
Available pump head pressure P3 (60 Hz)				barg	-	-	-	4.4/2.8	4.4/2.8	4.4/2.8	4.4/2.8	4.3/2.9	4.3/2.9	3.4/2.5	3.4/2.5	-	-	-	-	-	-	-
Nominal power P3				kW	-	-	-	1.1	1.1	1.1	1.1	2.2	2.2	2.2	2.2	-	-	-	-	-	-	-
Tank volume				l	-	-	-	60	60	115	115	140	255	255	255	350	350	350	350	500	500	500
Max pressure				barg	-	-	-	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Water connections				Rp	-	-	-	3/4"	3/4"	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"
Sound levels (2) (3) - 50 Hz																						
Sound pressure with axial fans				dB (A)	-	-	-	52.4	52.4	53.1	53.1	53.6	54.1	54.1	55	56.3	56.3	58	58	61.5	61.5	61.5
Sound pressure with centr.fans /high pressure axial fans				dB (A)	-	-	-	-	-	58.8	58.8	61.2	61.2	61.2	61.2	57	57	58.7	58.7	63.1	63.1	63.1
Dimensions and installed weight (4)																						
Width				mm	325	575	575	560	560	660	660	760	760	760	760	865	865	865	865	1255	1255	1255
Length				mm	728	652	652	1265	1265	1310	1310	1865	1865	1865	1865	2255	2255	2255	2255	3295	3295	3295
Height				mm	540	805	805	794	794	1400	1400	1447	1447	1447	1447	2065	2065	2065	2065	2159	2159	2159
Weight without pump				kg	-	-	-	194	198	320	339	451	613	626	650	957	1018	999	1020	1654	1703	1730
Weight with P3				kg	63	106	113	206	210	333	351	464	626	643	667	974	1035	1038	1059	1701	1750	1777
Weight with P5				kg	-	-	-	212	216	337	356	477	639	652	676	1011	1072	1053	1074	1733	1782	1809

The Complete Range

i-CHILLER

(1) Evaporator water inlet/outlet temperature 20/15°C, external air temperature 25°C.

(2) Unit with P3 pump and ON/OFF control.

(3) Sound pressure level in free field at 10m from unit condenser side and 1,6 m from ground.

(4) For units with standard power supply, axial fans, ON/OFF fan speed control.

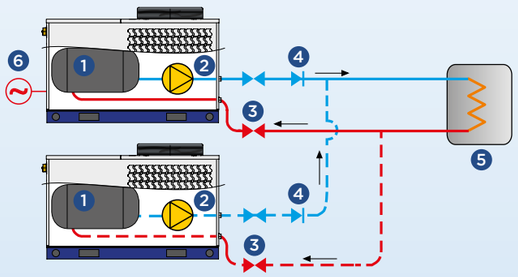
Max external air temperature 46°C (with water temperature 12/7°C).

The capacity correction factors in the following table should be used as a guide only, for accurate selection at conditions differing from the above the selection software should be utilised.

Evaporator $\Delta T \neq 5$ °C	°C	4	5	6	7	8	9	10
Correction factor	K2	0.994	1	1.005	1.010	1.017	1.021	1.025
Ethylene glycol solutions	%	0	10	20	30	40	50	
Correction factor - Cooling capacity	K4	1	0.99	0.98	0.97	0.96	0.93	

Typical configuration for users suitable for closed circuits

The diagram shows a typical closed circuit lay-out. Pressurised closed circuit applications (5) always require an expansion vessel. i-Chiller units in standard (evaporator in tank) configurations are ideal for such applications, and offer a pressurised automatic fill kit including the expansion tank (option). Pressurised closed circuit applications.



1 Accumulation tank
2 Pump
3 Valve
4 Non return valve
5 User
6 Expansion tank

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