

i-CHILLERⁿ

PROCESS MAX

**COMPLETE TEMPERATURE CONTROL SOLUTIONS
FOR PROCESS & INDUSTRIAL APPLICATIONS**



**PLANET-FRIENDLY PROCESS COOLING RANGE
FULLY PACKAGED AIR-COOLED CHILLERS
WITH LOWEST AVAILABLE ODP/GWP**

245kW to 472kW



THE MARKET LEADING i-CHILLER

THE NATURAL CHOICE FOR INDUSTRY AND OUR PLANET

i-Chiller Process-e air-cooled liquid process chillers are designed specifically to deliver absolute dependability for the most demanding industrial applications.

- i-Chiller Process Max-n liquid chillers are designed specifically for industry using the zero environmental impact totally natural refrigerant R290 and offers a long term sustainable cooling solution.
- i-Chiller Process Max-n has a fully packaged configuration and features an internal storage tank and pump as standard, offering a plug & play solution with worldwide acclaim to suit a variety of process cooling applications.

- i-Chiller Process Max-n is hugely versatile, with a range of options coupled with wide operating limits.
- i-Chiller Process Max-n features all the main hydraulic and mechanical components integrated inside the unit, as standard, ensuring easy maintenance.
- i-Chiller Process Max-n offers efficiency that exceeds the latest Ecodesign standard for process cooling applications.
- i-Chiller Process Max-n gives silent operation, thanks to the integral enclosure design.

SUITABLE FOR INDUSTRIES SUCH AS:

FOOD & BEVERAGE | PLASTICS | CHEMICAL & PHARMAECEUTICAL | METAL WORKS

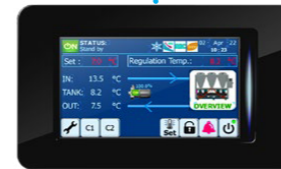


FEATURES

- Fully packaged (everything in one box)
- Over 30 years proven reliability
- More than 100,000 projects completed

INTEGRATED CONTROLLER

- User friendly touch screen interface;
- Control software developed in-house for fast and adaptive ca-pacity management;
- Enhanced diagnostics with data-logging function;
- Extensive connectivity and supervision via Ethernet, USB and RS485 Modbus;
- Remote control, management and monitoring with xVISION.



HIGH EFFICIENCY AXIAL FANS

Complete with protective grids and die-cast aluminium aerofoil blade profiles

MICROCHANNEL CONDENSERS

- Highly resistant aluminium alloys:
- Up to 30% refrigerant charge reduction;
 - High energy efficiency with closer thermal approach temperatures;
 - Optional epoxy coating available to extend durability in corrosive environments.

SCROLL COMPRESSORS

Fixed speed and/or variable speed compressor in 2 circuits, depending on model.

SHELL & TUBE EVAPORATOR

With a carbon stell shell and copper tubes

CENTRIFUGAL PUMP

GALVANISED CARBON STEEL STRUCTURE

Sturdy galvanised carbon steel structure with epoxy polyester powder coating giving sound-proofing for silent operation.

R290: THE NATURAL CHOICE FOR THE FUTURE

- NATURAL > R290 is a totally natural refrigerant.
- ECOLOGICAL > With a GWP of only 3 and an ODP of zero, R290 is the most ecological refrigerant and does not impact the environment.
- SAFE & RELIABLE > R290 is a non-toxic A3 refrigerant; it has been applied for over 100 years and is fully tried and tested.
- ECONOMICAL > Applying R290 avoids carbon taxes and benefits from local national incentives.
- FUTURE PROOF > R290 is exempt from HFC phase-out pro-grams, consequently your chiller is future proof.

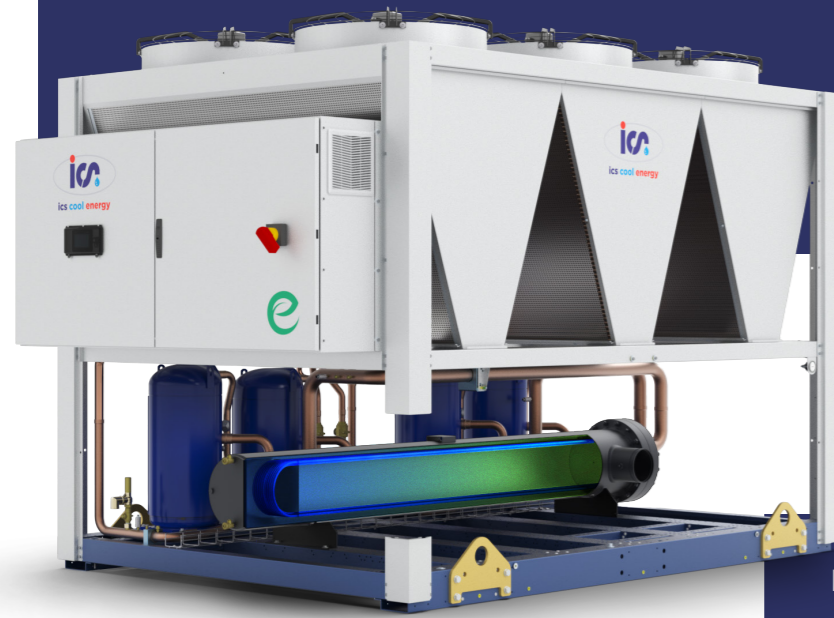
R290

UNIQUE SHELL AND TUBE EVAPORATOR

With a carbon steel shell and copper tubes, it has a single water circuit and a double refrigerant circuit to achieve the maximum efficiency also during the partial load functioning.

Advantages:

- Longer life when compared with plate exchangers
- Prevents blockages occurring with impurities found in process water
- Automatic air bleed valve and a drain valve for easy filling of water and drainage
- Anti-freeze function integrated into electronic controller



HIGH POWER PUMP

- Overcomes larger process pressure drops
- Typical system process pressure drop:
2-3 bar
 - HVAC Chiller System:
1-1.5 bar



OPTIONS

INTEGRATED BUFFER TANK

- Built-in carbon steel cold storage buffer tank

Advantages:

- Improves temperature stability of the chilled water to process
- Helps reduce overall plant footprint
- Reduces compressor starts

STANDBY PUMP



ECODESIGN COMPLIANT



INDIVIDUALLY FACTORY TESTED



3-BAR PUMP AS STANDARD

SPECIFICATION

ACOUSTIC CONFIGURATIONS

- HE - Basic acoustic configuration;
- SHE - Low noise acoustic configuration;
- SSN - Very low noise acoustic configuration.

i-Chiller Process Max-n		IC075in		IC100in		IC110in		IC150in	
Versions		HE	SHE	HE	SHE	HE	SHE	HE	SHE
Nominal cooling capacity (1)	kW	245,0	239,4	314,5	307,8	388,3	375,5	472,4	459,6
Total absorbed power (1)	kW	58,1	58,5	72,6	72,7	93,5	93,7	108,9	108,4
EER (1)		4,22	4,09	4,33	4,23	4,15	4,01	4,34	4,24
SEPR HT (2)		5,69	5,54	5,88	5,80	5,49	5,39	5,45	5,37
Max external air temperature (3)	°C	45	45	45	45	45	45	45	45
Power supply	V/Ph/Hz	400±10% / 3-PE / 50							
Circuits / Compressors	N°	2/2							
Sound power (4)	dB(A)	89,9	84,6	91,6	86,2	91,8	86,7	93,1	88,2
Sound pressure (5)	dB(A)	61,9	56,6	63,6	58,2	63,8	58,7	65,1	60,2
Width	mm	2241	2241	2241	2241	2241	2241	2241	2241
Depth	mm	3542	3542	3542	3542	3542	3542	4532	4532
Height	mm	2426	2426	2426	2426	2426	2426	2426	2426
Installed weight	Kg	2087	2087	2282	2282	2437	2437	3147	3147

i-Chiller Process Max-n*		IC075n		IC100n		IC110n		IC150n	
Versions		HE	SHE	HE	SHE	HE	SHE	HE	SHE
Nominal cooling capacity (1)	kW	236,5	226,9	291,2	298,1	369,8	351,7	480,8	458,5
Total absorbed power (1)	kW	54,8	54,8	72,6	68,0	86,3	86,4	109,5	109,8
EER (1)		4,32	4,14	4,01	4,38	4,29	4,07	4,39	4,18
SEPR HT (2)		5,40	5,32	5,01	5,56	5,13	5,00	5,29	5,15
Max external air temperature (3)	°C	47	47	47	47	47	47	47	47
Power supply	V/Ph/Hz	400±10% / 3-PE / 50							
Circuits / Compressors	N°	2/2							
Sound power (4)	dB(A)	89,9	84,6	91,6	86,2	91,8	86,7	93,1	88,2
Sound pressure (5)	dB(A)	61,9	56,6	63,6	58,2	63,8	58,7	65,1	60,2
Width	mm	2241	2241	2241	2241	2241	2241	2241	2241
Depth	mm	3542	3542	3542	3542	3542	3542	4532	4532
Height	mm	2426	2426	2426	2426	2426	2426	2426	2426
Installed weight	Kg	2159	2159	2283	2283	2601	2601	3309	2601

Data declared according to UNI EN 14511:2018, referring to standard units without accessories/options and in nominal working conditions.

- (1) Data referred to full load operation and nominal conditions, ambient temperature 25 °C and evaporator water IN/OUT temperature 20/15 °C;
- (2) Data declared in compliance with the European Regulation (EU) 2016/2281 with regard to ecodesign requirements for cooling products and high temperature process chillers;
- (3) Data declared referred to cooling mode and outlet water temperature 15 °C;
- (4) Sound power: determined on the basis of measurements taken in accordance with the standard ISO 3744;
- (5) Sound pressure: average value obtained in free field on a reflective surface at a distance of 10 m from the external side of the electrical panel of machine and at height of 1.6 m from the unit support base. Values with tolerance ± 2 dB. The sound levels refer to operation of the unit under full load in nominal conditions.

The listed noise levels, weights and dimensions refer to base units with no options fitted.

* Data refers to i-Chiller Process Max-n equipped with condensing coils in copper pipes and aluminium fins



FEATURES

- Natural Refrigerant R290 – Propane
- Two reciprocating compressors in 2 circuits; 1+1 configuration on i-Chiller Process Max-n models IC075in - IC150in)
- Compressor crankcase heater and phase-monitor
- Integral enclosure and acoustic insulation on compressor compartment
- Brazed plate evaporator heat exchanger
- Microchannel condenser coils
- Axial fans complete with protective grids and die-cast aluminium airfoil blade profiles (EC as standard on i-Chiller Process Max-n models IC075in - IC150in)
- Electronic expansion valves
- Electrical cabinet protection rating IP54
- Electronic microprocessor controller with touch screen user display
- Modbus RS485 serial output for connection to supervision systems
- IN/OUT compressor valves
- "Victaulic" hydraulic connections kit (supplied for each unit)
- Extensive tests and verifications performed in the factory
- Non-freezing oil and refrigerant charge for configurations up to 12 kg of refrigerant volume.

OPTIONS

- MWT version (down to -10 °C outlet water temperature)
- Low ambient temperature option (down to -20 °C)
- Single or twin water pumps with low (P2) or medium head pressure (P3)
- Water accumulation tank
- Anti-freeze protection heaters for heat exchangers, pump/s and water accumulation tank (if installed)
- High efficiency EC brushless fans (standard on i-Chiller Process Max-n models IC075in - IC150in)
- Protective epoxy coating for condenser coils, for installation in aggressive environments
- Finned pack condensing coils with copper pipes and aluminium fins
- Metal mesh filters for condenser coil protection

KITS

- Anti-Vibration mounts
- Metal mesh filters for condenser coil protection
- xVISION web-based remote management and monitoring platform



ics cool energy

**PROCESS TEMPERATURE CONTROL SPECIALISTS
SALES. HIRE. SERVICE.**

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ICS Cool Energy are specialists in critical and process temperature control solutions to keep industry running. Since 1989, ICS Cool Energy have been providing technical solutions helping businesses meet compliance requirements, reduce their energy consumption, maintenance, and operative costs. ICS Cool Energy offer long term and temporary cooling and heating rental, along with equipment and systems purchase, maintenance and emergency breakdown support. ICS Cool Energy are a part of Trane Technologies, a global climate innovator. For more information, visit www.icscoolenergy.com or www.tranetechnologies.com.



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