



United Technologies

AIR CONDITIONING SOLUTIONS

SIMPLICITY **OR** INTELLIGENCE ?

AQUASNAP® WITH GREENSPEED® INTELLIGENCE,
BECAUSE YOU SHOULD NOT HAVE TO CHOOSE.



Air-cooled scroll chillers

160 kW - 520 kW

30RBM & 30RBP



Carrier solutions based on **experience and expertise**

Carrier Heritage

Since Willis Carrier developed the world's first modern air conditioning system in 1902, Carrier teams have been designing solutions tailored to each customer's requirements. Over time, Carrier has been recognized as a pioneer in the design and manufacture of heating, ventilation and air conditioning (HVAC) solutions with sustainable performance, and equally important, for its commitment to first class service.



Carrier Commitment

Quality

Carrier quality and reliability are incorporated and guaranteed in all products and systems. Products undergo extensive tests before they are shipped to the customer and are also certified by internal organizations to ensure the highest levels of safety and quality.

Sustainability

Carrier continuously works to improve the environmental performance of its products and services, operations and its culture to help lead the way to environmental sustainability. Sustainability is one of the issues that affects the real-estate value of modern buildings. A high-efficiency air conditioning system with a low carbon footprint is a must to support green building design.

Performance

Carrier strives for continuous growth to reinforce its leadership position, continuously improving the productivity of its assets and resources.

Service Excellence

The Carrier Service delivery model maintains a reputation for high customer satisfaction and delivers service excellence with strong communication channels, the top technicians in the industry, continuous improvement of contracts and a highly experienced management team.

Innovation

Carrier is a company of ideas, committed to research and development, whose founder still inspires the company to reach the next innovative, powerful and marketable idea. Carrier AdvanTE³C, a global group of Experts in Efficiency and Environment, supports customers around the world in developing strategic, energy-efficient and custom-engineered building solutions.

Expertise

Carrier delivers global solutions across the broadest range of air conditioning, ventilation and heating applications. With a proven track record of leadership and industry expertise, Carrier provides a portfolio of market-leading products and services.

SIMPLICITY

The simplicity of AquaSnap, tried and trusted

Experience

With more than 60,000 units installed since 1998, AquaSnap is the **reference standard** in "plug & play" air conditioning solutions. Compact and simple to install, the new AquaSnap with Greenspeed intelligence combines **trusted reliability with even more innovation**.

Easy installation

AquaSnap integrates an hydronic module with pressure transducers for digital water flow rate display on the user interface and pump protection against low hydraulic pressure. The **variable-speed pump allows easy and fast installation start-up** thanks to the electronic setting of the nominal water flow.

Adaptability

The AquaSnap can operate in **all climates** from -20°C to +52°C. Thanks to special coil coatings and reinforced electrical protections, the AquaSnap can withstand operation in **corrosive and dusty environments**. To match specific industrial or commercial application requirements, the unit can be equipped with **multiple options**.

REFERENCE IN
«**PLUG & PLAY**»
AIR CONDITIONING
SOLUTIONS

UP TO **15% MORE**
EFFICIENCY WITH
THE **SAME**
DIMENSIONS AS
PREVIOUS GENERATION

ONE PRODUCT
FOR **MANY**
APPLICATIONS

&

INTELLIGENCE

Greenspeed intelligence: the smart innovation

Smart efficiency

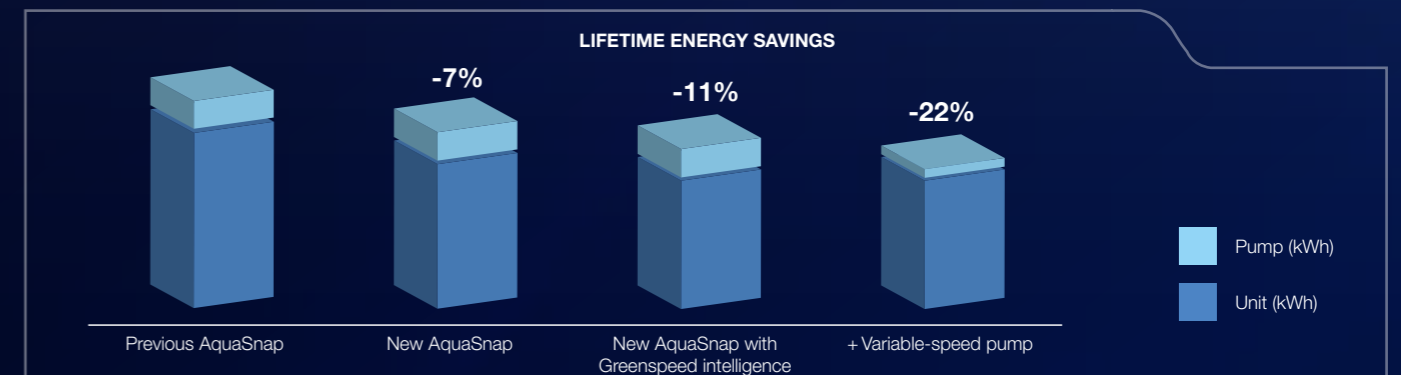
The new generation of AquaSnap chillers delivers on the energy savings and reduced carbon footprint required by the latest European regulations. AquaSnap with Greenspeed intelligence offers Class A or B energy efficiency ratings and Eurovent **Seasonal Energy Efficiency (ESEER) of up to 4.36**, making it the best value air conditioning solution in commercial and industrial applications.

Acoustic comfort

Thanks to the variable-speed fans, AquaSnap with Greenspeed intelligence offers **smooth fan speed variation during partial load operation**. For noise sensitive environments during night and day, the AquaSnap noise level can be automatically factory-set or tuned on-site.

Advanced control

An advanced control algorithm calculates the energy efficiency and **readjusts in real-time** the fan speed to reduce the cooling energy use. For further energy savings, the water flow rate can be **electronically controlled** to meet real application needs and thus reduce significantly the pumping energy use during night and day.



15-year energy savings calculations comparing a 400kW AquaSnap unit (3,7 ESEER) of the previous generation to a new AquaSnap unit (4,0 ESEER), a new AquaSnap Greenspeed unit (4,26 ESEER) with variable speed pump at an office building in an average European climate, 1500 running hours and 500 stand-by hours per year. This information is intended as an example for comparison purposes only.

AquaSnap scroll chillers 30RBM

AquaSnap scroll chillers with Greenspeed intelligence 30RBP

NOVATION® MICROCHANNEL

- Up to 50% refrigerant charge reduction vs. traditional Cu/Al coils*
- Better thermal performance, better efficiency and lower air pressure drop vs. Cu/Al coils
- Enviro-Shield® and Super Enviro-Shield® coatings, as options, for mild and severe corrosive environments

FIXED-SPEED FLYING BIRD® FAN

SCROLL COMPRESSORS

PRO-DIALOG+

TOUCH PILOT™ CONTROL (Option)

- 5" user-friendly touch screen
- All main parameters displayed on one screen
- Direct access to the unit's technical drawings and main service documents
- Easy remote monitoring via the internet
- Easy and secured access to unit parameters

HIGH EFFICIENCY BRAZED PLATE HEAT EXCHANGER

REDUCED REFRIGERANT CHARGE

FAN VARIABLE-SPEED DRIVE

VARIABLE-SPEED FLYING BIRD® FAN

- Carrier-designed fan blades
- Proprietary algorithm to control fan speed
- Dedicated drive
- Night-mode operation

VARIABLE-SPEED PUMP (Option)

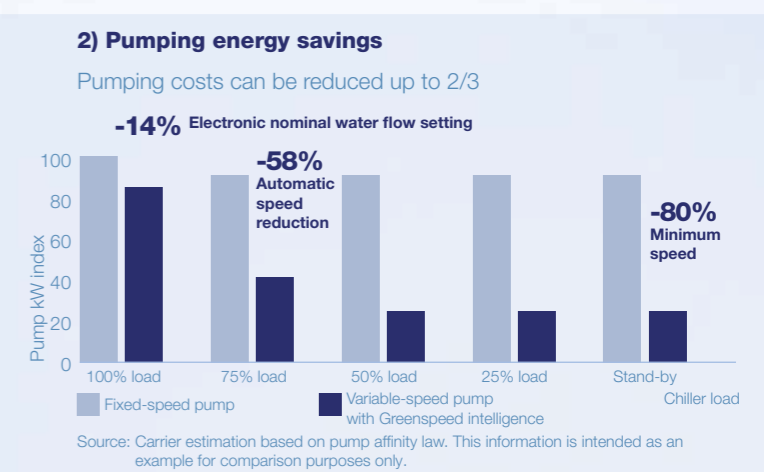
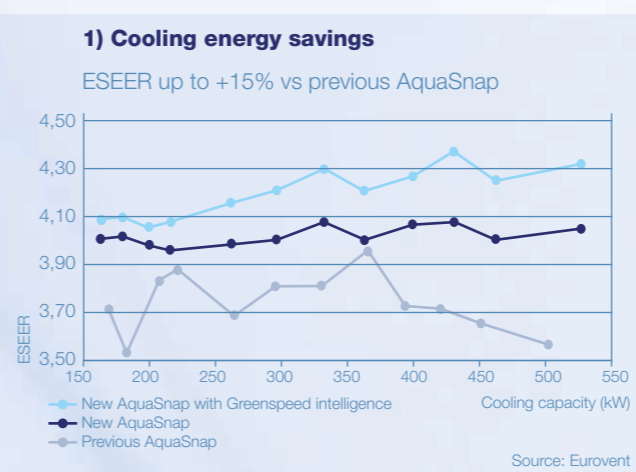
- Water flow electronic setting & readings
- Automatic pump protection against low water pressure
- Multiple pump control capabilities:
 - fixed-speed
 - variable-speed based on constant pressure or constant temperature

PUMP VARIABLE-SPEED DRIVE

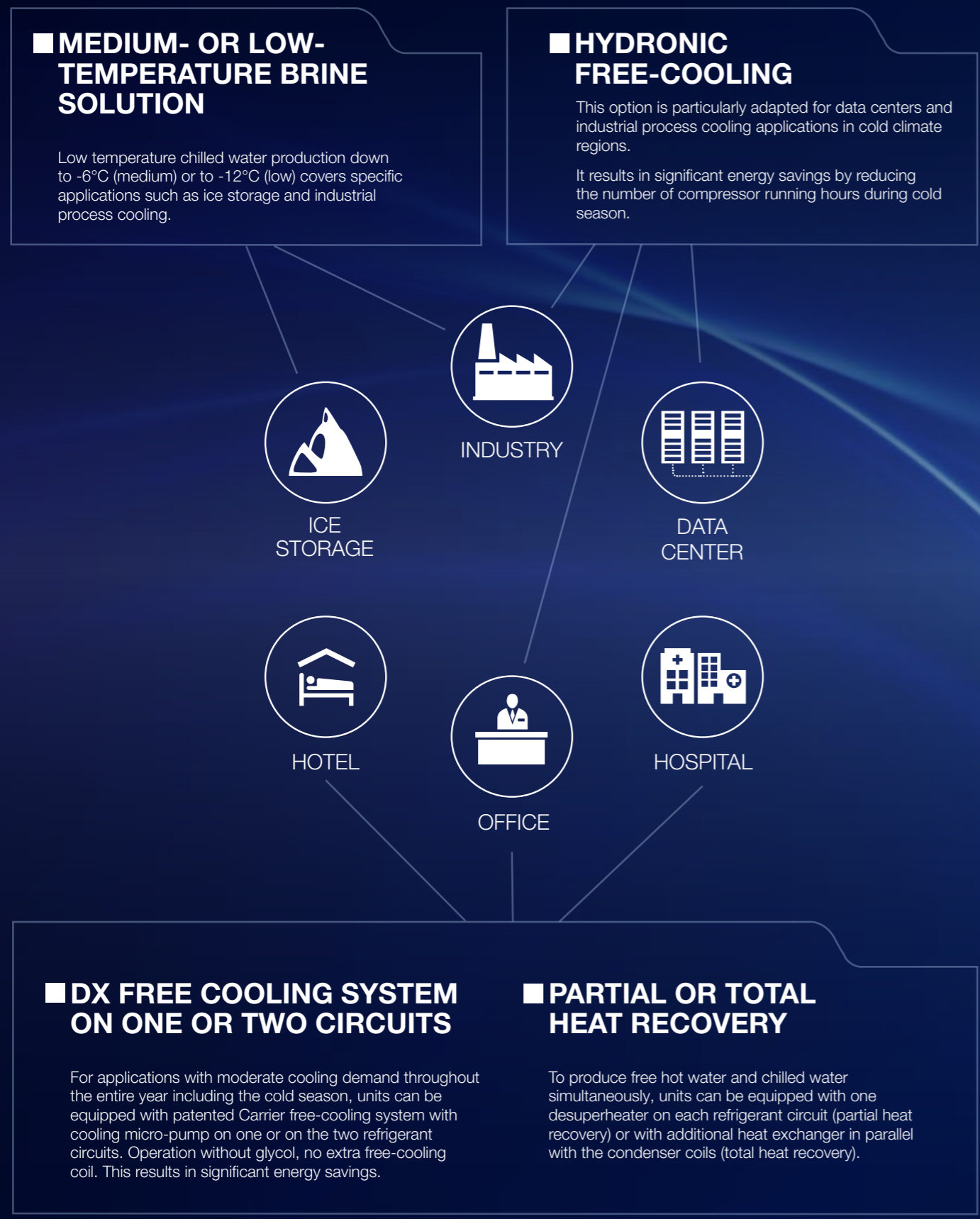


Ecodesign is the European Directive that sets mandatory requirements for Energy related Products (ErP) to improve their energy efficiency. Carrier supports initiatives to reduce the environmental impact of its products. AquaSnap with Greenspeed intelligence ranges are designed to anticipate and exceed future regulation requirements.

- **Compact design**, same footprint as previous AquaSnap generation, "plug and play" installation thanks to its built-in hydronic module
- **Enhanced chiller energy efficiency** at full and especially at partial load (1). Reduced pump energy use during chiller partial load operation and stand-by periods (2)
- **Adaptability**: a full range of options to match various applications and environments
- **Acoustic comfort**: smooth fan speed variation and night-time mode, adjustable sound level on site
- **Advanced control**: using Greenspeed intelligence, fan speed is adapted to continuously optimize chiller energy efficiency



Specific options for specific needs



Carrier Service beyond your expectations

Carrier teams are committed to ensuring your peace of mind while supporting your business objectives throughout the lifecycle of your equipment.

To meet your expectations, Carrier Service offers:

■ Proximity & Responsiveness

Carrier expert technicians are there to take action, quickly. The comprehensive and highly efficient maintenance processes mean your equipment will soon be back in action. In the meantime you can rely on Carrier Rental Systems and spare parts availability, because downtime is not an option.

Present in more than **60** countries
24/7 on-site availability

■ Expertise & Consultancy

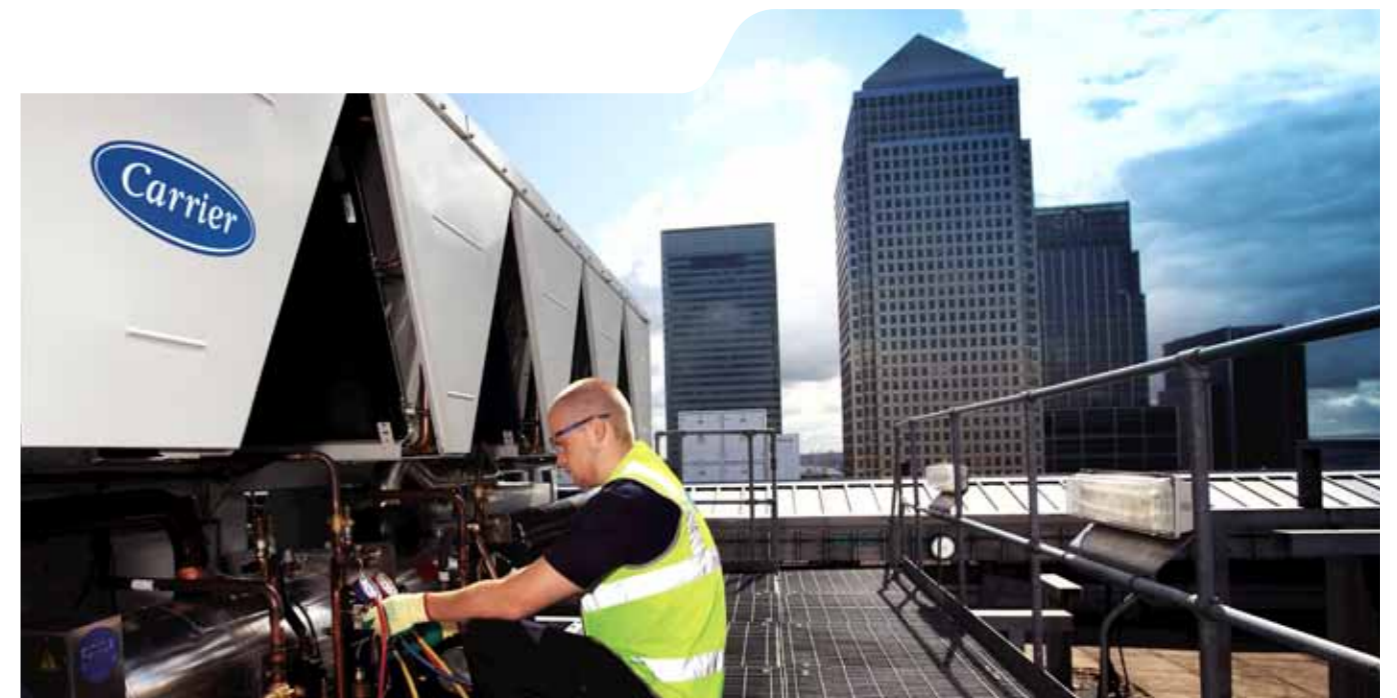
Carrier team's experience, a dense network of branches, top grade logistics and powerful information systems converge to continuously deliver a dedicated service. Your Carrier experts, based on in-house calculation algorithms, can help you to find the right balance between protecting the planet and maximizing your investments.

More than **110** years of experience

■ Proactiveness

As your preferred partner, Carrier designs tailored maintenance programs to meet your goals and to optimize your business performance.

Carrier proposes an advanced service offer based on secure connectivity, allowing you to monitor your equipment in real time and receive recommendations from Carrier experts.



Physical data



30RBM & 30RBP		160	180	200	220	260	300	330	360	400	430	470	520
NOMINAL COOLING CAPACITY*	kW	168	181	198	216	261	300	331	365	397	430	464	523
30RBM													
ESEER*	kW/kW	4,00	4,07	4,01	4,00	4,00	4,07	4,08	4,10	4,05	4,07	4,04	4,03
EER*	kW/kW	3,04	3,12	2,98	2,97	2,90	2,97	2,92	2,95	2,90	2,94	2,90	2,90
30RBP													
ESEER*	kW/kW	4,18	4,21	4,14	4,18	4,15	4,37	4,28	4,37	4,26	4,36	4,44	4,30
EER*	kW/kW	3,04	3,12	2,98	2,97	2,90	2,97	2,92	2,95	2,90	2,94	2,90	2,90
SOUND POWER LEVEL*													
STANDARD UNIT	dB(A)	91	92	92	92	92	93	93	93	93	94	94	94
LOW NOISE UNIT	dB(A)	89	90	90	90	90	91	91	92	92	93	93	93
VERY LOW NOISE UNIT	dB(A)	85	85	85	86	86	86	86	87	87	88	88	88
PHYSICAL DATA													
COMPRESSORS NO. CIRCUIT A / NO. CIRCUIT B		1/2	1/2	1/2	2/2	2/2	2/3	2/3	3/3	3/3	3/4	3/4	4/4
MINIMUM CAPACITY	%	33%	33%	33%	25%	25%	20%	20%	17%	17%	14%	14%	13%
LENGTH	mm			2410					3604			4797	
WIDTH	mm			2253					2253			2253	
HEIGHT	mm			2297					2297			2297	

*Eurovent-certified performances in accordance with standard EN14511-3 :2013
 Cooling mode conditions: evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator fouling factor 0 m2 K/W
 Carrier participates in the ECP program for Liquid Chilling Packages and Hydronic Heat Pumps. Check ongoing validity of certificate on www.eurovent-certification.com

OPTIONS	30RBM	30RBP	OPTIONS	30RBM	30RBP
HP SINGLE-PUMP HYDRONIC MODULE	✓	✓	WINTER OPERATION DOWN TO -10°C LOW SPEED	✓	Standard
HP DUAL-PUMP HYDRONIC MODULE	✓	✓	ENVIRO-SHIELD ANTI-CORROSION PROTECTION	✓	✓
LP SINGLE-PUMP HYDRONIC MODULE	✓	✓	SUPER ENVIRO-SHIELD ANTI-CORROSION PROTECTION	✓	✓
LP DUAL-PUMP HYDRONIC MODULE	✓	✓	SOFT STARTER	✓	✓
HP VARIABLE-SPEED SINGLE-PUMP HYDRONIC MOD.	✓	✓	EVAPORATOR FROST PROTECTION	✓	✓
HP VARIABLE-SPEED DUAL-PUMP HYDRONIC MOD.	✓	✓	POWER FACTOR CORRECTION	✓	✓
WELDED EVAPORATOR WATER CONNECTION KIT	✓	✓	230V ELECTRICAL PLUG	✓	✓
EXPANSION TANK	✓	✓	ELECTRIC ENERGY METER*	✓	✓
LOW NOISE LEVEL	✓	✓	IP54 CONTROL BOXES	✓	
VERY LOW NOISE LEVEL	✓	✓	EVAP. AND HYDRO. MODULE FROST PROTECTION	✓	✓
PARTIAL HEAT RECOVERY	✓	✓	MASTER/SLAVE OPERATION	✓	✓
TOTAL HEAT RECOVERY*	✓	✓	BACNET/IP GATEWAY	✓	✓
DX FREE COOLING SYSTEM ON ONE CIRCUIT*	✓	✓	CCN TO J-BUS GATEWAY	✓	✓
DX FREE COOLING SYSTEM ON TWO CIRCUITS*	✓	✓	CCN TO LON GATEWAY	✓	✓
HYDRONIC FREE COOLING*	✓	✓	ENERGY MANAGEMENT MODULE	✓	✓
MEDIUM-TEMPERATURE BRINE SOLUTION*	✓	✓	TOUCH PILOT CONTROL	✓	✓
LOW-TEMPERATURE BRINE SOLUTION*	✓	✓	CARRIER CONNECT LINK	✓	✓
UNIT EQUIPPED FOR AIR DISCHARGE DUCTING*	✓	✓	GRILLES AND ENCLOSURE PANELS	✓	✓
HIGH AMBIENT TEMPERATURE	✓		ENCLOSURE PANELS	✓	✓
WINTER OPERATION DOWN TO -20°C	✓	Standard	COMPRESSOR SUCTION AND DISCHARGE VALVES	✓	✓
WINTER OPERATION DOWN TO -10°C	✓	Standard	COMPRESSOR DISCHARGE VALVES	✓	✓

* Options available during 2015. Contact your Carrier representative for further information.