



United Technologies

DESIGNING INNOVATIVE SOLUTIONS

AIR CONDITIONING AND HEATING SOLUTIONS

EFFICIENCY **OR** ADAPTABILITY ?

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



Air-cooled liquid chillers and heat pumps

Inverter 17 kW – 21 kW

30RBV & 30RQV



AquaSnap[®] with Greenspeed[®] intelligence, because you should not have to choose

EFFICIENCY

The commitment to performance

■ Large operating map

Equipped with the latest variable speed inverter twin rotary compressor, the AquaSnap[®] with Greenspeed[®] intelligence offers a **wide operating range of 15 to 100%**, allowing an operating outside temperature from -20°C to + 48°C. The maximum **water outlet temperature can be up to 60°C** to ensure reliable heating functionality for commercial and residential buildings.

■ Energy savings

The smart coordination between the twin-rotary inverter compressor, the electronic expansion valve and the fan optimises the performance of the AquaSnap.

With an European **Seasonal Energy Efficiency Ratio (ESEER) up to 4.56** and a **Seasonal Coefficient of Performance (SCOP) up to 3.1**, AquaSnap with Greenspeed intelligence is the best value for air conditioning and heating solution in commercial and residential applications.

■ Advanced control

The **new generation of control, NHC**, perfectly meets the thermal needs of residential and commercial buildings while insuring the energy efficiency optimisation.

NHC integrates domestic hot water production and master-slave configuration up to 4 units, with JBUS connection.

30RBV



ESEER up to **4.56** *
EER up to **4** **



30RVQ



Energy Labelling **A+**
SCOP up to **3.1** ***

* Values in accordance with standard EN14511-3:2013

**EER calculated for typical air-conditioning application, evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C

*** In accordance with standard EN 14825:2013, Average climate

&

ADAPTABILITY

Fast to install, easy to maintain

■ A plug and play solution

With its complete factory wiring, **easy handling features, factory-installed options** and intuitive interface, the 30RBV and 30RVQ set up is fast and straightforward. **Its compact size allows easy integration** for small offices, hotels and shops. The AquaSnap unit can be easily integrated into an existing Building Management System (BMS). Control options are compatible with most standard communication protocols (JBUS, BACnet and LON).

■ Maintenance made simple

Maintaining the AquaSnap air-cooled chiller is as simple as installing it. To get direct access to all components, **all you need to do is remove the front panels.**

Furthermore, the control system stores all operating data and offers 3 specific access levels (end-user, installer and factory) to quickly provide the requested and dedicated data.

■ Perfect integration

Due to Carrier expertise in vibration optimisation, the AquaSnap offers an outstanding **acoustic comfort for noise sensitive environment.** With their neutral color, RAL7035, the 30RBV and 30RVQ can be integrated into every environment.

**FULLY
INTEGRATED
OPTIONS FOR FAST
INSTALLATION AND
SPACE SAVINGS**

**INSTALLER DEDICATED
CONTROL INTERFACE
ACCESS FOR FAST AND
EFFICIENT COMMISSIONING
AND MAINTENANCE**

**DESIGNED FOR
THE HIGHEST
SOUND CONTROL
AND VISUAL
INTEGRATION**

Technical Insight

Air-cooled liquid chillers and heat pumps with Greenspeed intelligence

30RBV - 30RQV



USER INTERFACE

- Large user-friendly backlit screen
- 3 access levels: end-user, installer and factory

CONTROL

- Master-slave configuration up to 4 units
- Domestic hot water production and management (optional)
- JBUS connection

HYDRONIC MODULE

- Hydronic module with variable speed water pump (optional)



VARIABLE-SPEED INVERTER TWIN-ROTARY COMPRESSOR

- Pulse width modulation (PWM): fine-tuning of the compressor speed to avoid temperature fluctuation
- Efficient coordination between expansion valves, compressor, fan and control

KEY BENEFITS

- **High performance:** twin rotary compressor and control integration
- **Advanced control:** optimised user interface, 3 comfort modes, domestic hot water production, JBUS connection...
- **Flexibility:** large operating envelope (from - 20° C to + 30°C in heating mode and from 0°C to + 45°C in cooling mode)
- **Easy installation and maintenance:** installer dedicated control interface access
- **Acoustic comfort:** optimised sound level through Carrier expertise in vibration

GREENSPEED INTELLIGENCE, THE FULL MANAGEMENT OF VARIABLE-SPEED

The addition of variable-speed condenser fans and variable-speed screw compressor allows the AquaSnap with Greenspeed intelligence to match load conditions, delivering exceptional part-load performance.

The control constantly monitors all machine parameters and precisely manages the operation of compressor, expansion devices, fans and water heat exchanger water pump.

30RBV & 30RQV



Physical data					30RBV		30RQV	
STANDARD RANGE					17	21	17	21
COOLING								
NOMINAL COOLING CAPACITY		C1*	kW		15.6	18.6	14.9	18.6
ENERGY EFFICIENCY RATIO	EER	C1*	kW/kW		3.3	3.1	3.0	3.1
EUROVENT CLASS COOLING		C1*			A	A	B	A
NOMINAL COOLING CAPACITY		C2*	kW		21.6	25.5	20.2	25.8
ENERGY EFFICIENCY RATIO	EER	C2*	kW/kW		4.0	3.9	3.8	3.8
EUROVENT CLASS COOLING	C2	C2*			A	A	A	A
SEASONAL EFFICIENCY	ESEER		kW/kW		4.48	4.56	4.01	3.85
HEATING								
NOMINAL HEATING CAPACITY		H1(30-35)*	kW		-	-	17.1	21.1
COEFFICIENT OF PERFORMANCE	COP	H1*	kW/kW		-	-	4.1	4.1
NOMINAL HEATING CAPACITY		H2(40-45)*			-	-	16.9	20
COEFFICIENT OF PERFORMANCE	COP	H2*			-	-	3.3	3.3
NOMINAL HEATING CAPACITY		H3(47/55)*			-	-	15.2	21.1
COEFFICIENT OF PERFORMANCE	COP	H3*	kW/kW		-	-	2.7	2.5
SEASONAL EFFICIENCY	SCOP	H3**			-	-	3.1	2.9
SEASONAL EFFICIENCY	(ηs)	H3**	kW/kW		-	-	121	114
PRATED		H3 (Average climate)**	kW		-	-	9.5	15.4
ANNUAL ENERGY CONSUMPTION		H3**	kWh		-	-	6269	10980
ENERGY CLASS		H3**			-	-	A+	A+
WEIGHT AND DIMENSIONS								
LENGTH			mm			584		
WIDTH			mm			1109		
HEIGHT			mm			1579		
OPERATING WEIGHT (WITH HYDRAULIC MODULE) (3)			kg			230		
SOUND POWER LEVEL								
SOUND POWER LEVEL (1)		C1	dB(A)		72	74	72	74
Sound pressure level at 10 m (2)			dB(A)		40	43	40	43

* In accordance with standard EN 14511-3:2013

** In accordance with standard EN 14825:2013, average climate

C1: Cooling mode conditions: evaporator water entering/leaving temperature 12°C/7°C, outside air temperature 35°C, evaporator cooling factor 0m² K/W

C2: Cooling mode conditions: evaporator water entering/leaving temperature 23°C/18°C, outside air temperature 35°C, evaporator cooling factor 0m² K/W

H1: Heating mode conditions: Water heat exchanger water entering/leaving temperature 30°C/35°C, cooling factor 0m² K/W. Outside air temperature 7°C db / 6°C wb

H2: Heating mode conditions: Water heat exchanger water entering/leaving temperature 40°C/45°C, cooling factor 0m² K/W. Outside air temperature 7°C db / 6°C wb

H3: Heating mode conditions: Water heat exchanger water entering/leaving temperature 47°C/55°C, cooling factor 0m² K/W. Outside air temperature 7°C db / 6°C wb

(1) In dB ref = 10-12 W weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3 dB(A)). Measured in accordance with ISO 9614-1.

(2) In dB ref 20µPA, (A) weighting. Declared dual number noise emission values in accordance with ISO 4871 (with an associated uncertainty of +/-3 dB(A)). For information, calculated from the sound power level Lw(A).

(3) Weights are guideline only, please refer to the unit nameplate

Eurovent certified data

Eurovent certified data

ACCESSORIES

MASTER/SLAVE UP TO 4 UNITS SENSOR
DOMESTIC HOT WATER MANAGEMENT SENSOR
REMOTE INTERFACE WUI
ADDITIONAL OUTDOOR AMBIENT TEMPERATURE SENSOR

OPTIONS

CCN TO BACNET GATEWAY	WATER FILLING SYSTEM
CCN TO LON GATEWAY	EXPANSION TANK
LOCAL USER INTERFACE WUI	MAIN DISCONNECT SWITCH
HYDRONIC MODULE WITH FIX SPEED PUMP	HYDRONIC MODULE WITH VARIABLE SPEED CIRCULATOR
ITALCOAT COIL PROTECTION	

www.carrier.com

AquaSnap with Greenspeed intelligence - 30RBV & 30RQV - English - February 2016. © Carrier 2016. All rights reserved. Non-contractual document. Carrier reserves the right to change certain information and specifications contained in this document at any time and without prior notice. Since standards, specifications and designs are subject to occasional change, please ask for confirmation of the information given in this publication.



United Technologies