



### **AIR CONDITIONING & HEATING SOLUTIONS**

Variable-speed, water-cooled chillers and heat pumps

> 580 – 1700 kW 30XW-V/30XWHV



## The latest AquaForce generation: Carrier expertise **turned**





Carrier participates in the ECC programme for Liquid Chilling Packages. Check ongoing certification validity: www.eurovent-certification.com or www.certiflash.com

### Greenspeed technology enhances the renowned AquaForce line features for variable-load building demands

Carrier has developed its own state-of-the-art answer to market-challenging requirements: a complete product range featuring new inverter-driven screw compressors, based on the successful AquaForce series. The new line with Greenspeed technology offers increased global performance as well as Carrier's acclaimed product quality, reliability and customer service support.

### **Quality: simply in Carrier's culture**

Carrier is committed to delivering perfect operational products to every customer. Components and processes are accurately defined, tested and monitored during the entire product development process. In addition, Eurovent regularly tests our products to certify their accurate performance.

### Rely on Carrier commitment long after the sale

Our commitment to our products extends far beyond the factory gate. Carrier continues to support you, offering a variety of service maintenance contracts and control solution packages. These services ensure that the equipment always operates at peak efficiency and offer added advantages of faster fault diagnosis, minimising the risk of operational downtime.

#### Carrier GREEN

### **30XW-V/30XWHV:** the air conditioning and heating solution for green buildings

Sustainability is the issue that most 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, gaining points with current sustainability protocols such as LEED<sup>®</sup> or GreenStar. To make an air conditioning unit the right choice for a green building it needs to meet a number of requirements: high efficiency, low noise, recyclability, reliability, flexibility. Carrier meets these targets and sets new standards with the new AquaForce line with Greenspeed technology.

## to meet customer needs

### Seasonal efficiency

The exclusive Carrier Greenspeed technology used for the new AquaForce line ensures high energy efficiency, both at full and part load. The ESEER of the 30XW-V is up to 40% higher than that of traditional fixed-speed units and in line with more recent oil-free centrifugal chillers. High seasonal efficiency means minimised energy consumption and lower electricity bills.

### Reliability

For applications such as data centres or industrial processes reliability comes first, but to minimise maintenance and operating costs reliability is always a key point.

The new AquaForce line with Greenspeed technology can operate even at high condensing temperatures without surge risk. The complete range was continually tested during the development stage to ensure exceptional reliability, becoming a preferred solution even for the most critical applications.



AQUAFORCE

### Economy

Designing a new building, consultants and owners need to consider budgetary constraints and the returnon-investment analysis. The optimal air conditioning system guarantees lowest total life cycle cost, compared to alternative systems, with a payback time that can be lower than two years.

Carrier helps customers find the best solution for a specific application, and the new AquaForce line with Greenspeed technology offers exceptional cost benefits.



Costs calculated for a typical hospital application (3000 h/year, 0.15  $\in$ /kWh) with a cooling demand profile in line with the ESEER base.

### Versatility

Each building or application has specific unique air conditioning and heating requirements.

The AquaForce line with Greenspeed technology was developed for heating systems, high-water-column hydronic plants and variable-flow applications. The wide range of unit configurations makes of this new Carrier line the right choice for many different applications.





## **Designed to use the full potential**

### INVERTER-DRIVEN SCREW COMPRESSORS

(CARRIER PROPRIETARY TECHNOLOGY)

- Improved efficiency, especially at part load
- Negligible start-up current and high power factor
- Accurate capacity control
- Surge-free, positive-displacement technology







## Greenspeed technology delivers...



30XW-V/30XWHV

## of the latest technologies





#### Experience

Proven technology, demonstrated by thousands of installations world-wide

#### Compactness

Compact chillers designed for standard door widths and for easy retrofit installation

#### Efficiency

Chillers and heat pumps that exceed Eurovent Class A standards, for reduced building energy consumption and CO<sub>2</sub> emissions

## NEW ( TOUCHPILOT CONTROL

- User-friendly touch screen interface
- Status of all main parameters on one screen
- Direct access to the unit's technical drawings and main service documents
- Easy enhanced remote monitoring via the internet
- Easy access to unit parameters with different security access levels: enter your password and get access to your unique parameters.



# Discover AQUAFORCE strengths



#### 30XW-V/30XWHV

### **Physical data**

	30XW-V/30XWHV		580	630	810	880
	Refrigerant		R134a			
	Compressor			Inverter-driven screw type		
	Number of compressors / circuits		1/1	1/1	1/1	1/1
	Capacity control range			20% - 100%		
	EMC compatibility, EN61800-3		«СЗ»	«C3»	«C3»	«C3»
	Performance in cooling mode					
	Air conditioning application - as per EN14511-3:2011					
1	Cooling capacity*	kW	587	652	812	858
	EER	kW/kW	5.44	5.31	5.25	5.07
	Eurovent class		А	А	Α	А
	ESEER*	kW/kW	7.80	7.60	8.04	7.76
	Air conditioning application					
	Cooling capacity**	kW	588	654	814	861
	EER**	kW/kW	5.67	5.56	5.46	5.29
	ESEER**	kW/kW	9.03	9.04	9.52	9.25
sna V	Cooling floor application - as per EN14511-3:2011					
/	Cooling capacity***	kW	791	846	1022	970
	EER***	kW/kW	6.96	6.50	6.22	5.63
	Eurovent class, cooling		А	А	A	A
	Cooling floor application					
	Cooling capacity****	kW	794	850	1026	973
	EER	kW/kW	7.50	7.03	6.62	5.93
	Performance in heating mode					
	Air conditioning application - as per EN14511-3:2011					
1	Heating capacity	kW	648	719	890	968
	COP*	kW/kW	4.64	4.53	4.56	4.41
	Eurovent class, heating		А	A	A	В
	Air conditioning application					
	Heating Capacity**	kW	646	716	887	965
	COP**	kW/kW	4.84	4.75	4.75	4.61
× ***	Heating floor application - as per EN14511-3:2011					
/	Cooling capacity***	kW	687	767	956	1021
	COP***	kW/kW	6.15	5.98	5.96	5.81
	Eurovent class, heating		А	A	A	A
	Heating floor application					
	Heating capacity****	kW	684	763	953	1017
	COP****	kW/kW	6.59	6.49	6.39	6.25
	Sound level (at full load)				;	
	Sound power level*	dB(A)	102	102	102	102
	Sound pressure level at 1 m <sup>++</sup>	dB(A)	84	84	84	84
	Unit dimensions	,		,	,	
	Length	mm	3059	3059	3290	3290
	Width	mm	1087	1087	1237	1237
	Height	mm	1743	1743	1950	1950
	Operating weight <sup>‡</sup>	kq	3152	3190	4157	4161

Calculations in accordance with standard performances (as per EN14511-3:2011) and certified by Eurovent. Conditions in cooling mode: evaporator water entering/ leaving temperature 30°C/35°C, evaporator/condenser fouling factor = 0 Conditions in heating mode: condenser water entering/

Conditions in heating mode: condenser water entering/ leaving temperature 40°C/45°C, evaporator water entering/leaving temperature 10°C/7°C, evaporator/condenser fouling factor = 0

\*\* Conditions in cooling mode: evaporator water entering/ leaving temperature 12°C/7°C, condenser water entering/leaving temperature 30°C/35°C, evaporator/ condenser foulling factor = 0

Conditions in heating mode: condenser water entering/ leaving temperature  $40^{\circ}C/45^{\circ}C$ , evaporator water entering/leaving temperature  $10^{\circ}C/7^{\circ}C$ , evaporator/ condenser fouling factor = 0

Gross adjusted performances, not taking into account the water pump and heat exchangers pressure drops, that are not certified by Eurovent for 2012, but used for the 2011 gross declaration and given as a reference for

comparison \*\*\*\*Calculations in accordance with standard performances (as per EN14511-3:2011) and certified by Eurovent.

(as per EN14511-3:2011) and certified by Eurovent. Conditions in cooling mode: evaporator water entering/ leaving temperature 23°C/18°C, condenser water entering/leaving temperature 30°C/35°C, evaporator/ condenser favore factor.

condenser fouling factor = 0 Conditions in heating mode: condenser water entering/ leaving temperature 30°C/35°C, evaporator water entering/leaving temperature 10°C/7°C, evaporator/ condenser fouling factor = 0

\*\*\*\* Conditions in cooling mode: evaporator water entering/ leaving temperature 23°C/18°C, condenser water entering/leaving temperature 30°C/35°C, evaporator/ condenser fouling factor = 0

Conditions in heating mode: condenser water entering/ leaving temperature  $30^{\circ}C/3^{\circ}C$ , evaporator water entering/leaving temperature  $10^{\circ}C/7^{\circ}C$ , evaporator/ condenser fouling factor = 0

Gross adjusted performances, not taking into account the water pump and heat exchangers pressure drops, that are not certified by Eurovent for 2012, but used for the 2011 gross declaration and given as a reference for comparison

† 10<sup>-12</sup> W in accordance with ISO 9614-1. Sound power level with option 257

*t* + In a free field. Sound pressure level with option 257

‡ Weights are guidelines only. The refrigerant charge is given on the unit nameplate

NOTE: 30XW-V/30XWHV 1150 ÷ 1710 available 2013; will offer up to 1700 kW. Contact Carrier sales force for more details

#### Main options

- Low-noise option
- EMC EN61800-3 C2 compliance, for residential applications
- Service valve set
- Customised heat exchangers (one or two passes, 1 or 2.1 MPa water pressure resistance, reversed water boxes)
- Units optimised for cooling tower applications
- Various BMS communication protocols



### Carrier, for the environment

Carrier believes that industry leadership demands environmental leadership. In fact, environmental stewardship is one of Carrier's core values. Carrier continuously works to improve the environmental performance of its products and services, operations and culture to help achieve a sustainable society.



### Carrier, for performance

Carrier strives for continuous growth to reinforce its leadership position, achieve world-class financial performance and continuously improve the productivity of its assets and resources.

### Carrier, for service

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



### Carrier, for innovation

Carrier is a company of ideas, committed to research and development, whose founder inspires the company to reach the next innovative, powerful and marketable idea.

### Carrier, to be your expert

Carrier delivers global solutions across the broadest range of heating, cooling and refrigeration applications. With a proven track record of leadership and industry expertise, we are here to meet your needs with our portfolio of market-leading products and services.



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