FORCE OR INTELLIGENCE?

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

Air and water-sourced, variable-speed screw units

500 kW - 1750 kW

30XAV & 30XWV
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 AdvantEC, 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.

-AquAForce with Greenspeed® intelligence
The strength of the AquaForce heritage

- Experience
  Launched in 2006, the AquaForce range now counts thousands of installations worldwide. AquaForce with Greenspeed® intelligence leverages its unique experience while improving performance, especially at partial load, and control capability.
- Full efficiency
  With its magistral use of the variable-speed technology, AquaForce with Greenspeed® intelligence offers an optimum efficiency at full and partial load without any compromise.
- Unrivalled reliability
  The 30XAV and 30XW-V ranges are characterized by the same unrivalled reliability rates of the famous AquaForce range:
  - surge-risk free technology
  - extensive qualification process
  - vibration tests based on military standards
  - various available options.

Full efficiency
With the use of experienced and robust technologies, the high efficiency of AquaForce with Greenspeed® intelligence ranges make the 30XAV and 30XW-V units the best return on investment.

Smart efficiency
With its magistral use of the variable-speed technology, AquaForce with Greenspeed® intelligence offers an optimum efficiency at full and partial load without any compromise.

30XAV
EER up to 3.4
SEER up to 4.9

30XW-V
EER up to 5.5
SEER up to 8.0

Intelligence
Greenspeed® intelligence: the smart innovation

- Advanced control
  The Touch Pilot™ control new generation sets new standard for chillers and heat pumps operation, precise resource control, speed of response, interactive and self-explanatory user interface together with web-server capability.
- Adaptability
  30XAV and 30XW-V ranges fit with many types of applications thanks to:
  - extended operating envelope
  - high efficiency at both full and partial load
  - robustness of its technology
  - reduced noise during real life operation
  - various available options.

Carrier control software enables moment to moment adaptation to the buildings requirements with precision.

Value in accordance with EN14511-3:2013 and certified by Eurovent.
EER calculated for typical air-conditioning application, 13/7°C - 30/35°C (30XAV) and 12/7°C - 35°C (30XW-V)

Based on Hourly Analysis Program simulation - Cooling load profile - Hotel in London, air conditioning required 24h/day, 365 days.
Air-cooled variable-speed screw chillers with Greenspeed® intelligence

30XAV

High performance and full efficiency at full and partial load
Short payback compared to a traditional fixed-speed screw machine
Advanced control: precise capacity matching of building load, ease management, increased computing capabilities, web-server connectivity and enhanced system integration
Adaptability: wide operating envelope and robust core technology suitable for various applications and installation in different climates
Reliability: AquaForce with Greenspeed® intelligence based on the proven Carrier quality

Water-sourced variable-speed screw chillers and heat pumps with Greenspeed® intelligence

30XW-V/30XWHV

Short payback

Costs calculated for a typical hospital application (3000 h/year, 0.15 €/kWh). Simplified energy analyses based on 30XW-V performance vs other water-cooled chillers. Cooling demand profile in line with the ESEER index.

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. AquaForce with Greenspeed® intelligence ranges are designed to anticipate and exceed future regulation requirements.
HOSPITAL: REMARKABLE RELIABILITY
At the heart of the 30XAV and 30XWV is a screw compressor with a very low failure rate close to 0.1%. With the legacy of the AquaForce range installed in thousands of sites worldwide, the experience confirms the reliability of Carrier. The screw compressors feature automatic unloading at abnormally high condensing temperatures: even in extreme heat conditions, AquaForce with Greenspeed® intelligence ensures continuous cooling with no risk of surge. Carrier performs exceptional endurance tests before launching any new product. Specialized laboratories and advanced dynamic simulation tools are used to design critical subassemblies components and to ensure coils anti-corrosion.

HOTEL: ADAPTABILITY TO LOAD VARIATION
Hotels’ cooling loads may vary sharply and rapidly throughout the day. Thanks to their electronic capacity control method, variable-speed motors adapt their output to real demand in just a few seconds. This in turn ensures minimum energy consumption during the variations.

DATA CENTER: FAST CAPACITY RECOVERY
Data centers have very specific needs: high efficiency, precise temperature control and maximum uptime. To meet these challenges, Carrier has developed its dedicated Fast Capacity Recovery feature, offering significant reduction of recovery time in case of power failure. Greenspeed® intelligence systems reduce full load capacity recovery by as much as five minutes.

GREEN BUILDING: SUSTAINABILITY
The 30XAV and 30XW-V/30XWHV not only offer efficiency to reduce the overall building energy consumption but are also designed for an easy system integration:
- Variable-speed pumps control to exploit the package efficiency
- Time-scheduling, double-set point, night-mode operation and other control features are available to optimize the chiller operation with the building’s needs
- Several communication protocols are available for an easy integration of the chiller control into the plant Building Management System
- Remote monitoring: Carrier’s experts support the building owner to secure a consistent efficiency through the entire lifetime of the equipment.

INDUSTRY: FULL LOAD EFFICIENCY
It is not uncommon for an inverter-driven machine to offer very high efficiency at partial load, but often, achieving high efficiency at partial load meant sacrificing efficiency at full load. Now, with AquaForce with Greenspeed® intelligence, you can have both.
With Greenspeed® intelligence you can count on a high reliable system that won’t let you down. A fast capacity recovery setup is provided in case of a possible breakdown.

MULTI RESIDENTIAL: CUSTOMIZED SOLUTIONS
The 30XAV and 30XW ranges of sizes are suitable for every multi-residential applications, where the ease of installation and the plug & play approach are essential. With 30XW and 30XWV ranges, Carrier offers:
- EMC Class 2 compatibility for application in residential environments
- Low noise options, to reduce noise by 6 dBA for 30XAV and 3 dBA for 30XW-V
- Pumps control, to reduce installation time
- Leak detection signal, to promptly report any refrigerant leak
- Heating capability (30XWH-V) only for comfort all year long: during summer and winter seasons.

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.

- **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.

- **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.

Carrier Service
beyond your expectations

Specific solutions for specific needs

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## Performance in Cooling Mode
### Air Conditioning Application *

<table>
<thead>
<tr>
<th><strong>COOLING CAPACITY (kW)</strong></th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>950</th>
<th>1050</th>
<th>1150</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESEER (kW/kW)</td>
<td>4.59</td>
<td>4.67</td>
<td>4.79</td>
<td>4.85</td>
<td>4.72</td>
<td>4.68</td>
<td>4.84</td>
</tr>
<tr>
<td>EER (kW/kW)</td>
<td>3.22</td>
<td>3.23</td>
<td>3.29</td>
<td>3.37</td>
<td>3.12</td>
<td>3.08</td>
<td>3.10</td>
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<tr>
<td>EUROVENT CLASS</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

### Sound Level **

| **SOUND POWER LEVEL, 100% LOAD (dB(A))** | 99  | 100 | 100 | 100 | 102 | 103  | 103  |
| **SOUND POWER LEVEL, 50% LOAD (dB(A))** | 92  | 93  | 93  | 93  | 94  | 94   | 94   |

### Physical Data

| **NUMBER OF COMPRESSORS/CIRCUITS** | 2 / 2 | 2 / 2 | 2 / 2 | 2 / 2 | 2 / 2 | 2 / 2 | 2 / 2 |
| **CAPACITY CONTROL RANGE**         | 10% ... 100% |
| **LENGTH (mm)**                    | 6092 | 6092 | 7186 | 8380 | 9573 | 10767| 11962|
| **WIDTH (mm)**                     | 2253 | 2253 | 2253 | 2253 | 2253 | 2253 | 2253 |
| **HEIGHT (mm)**                    | 2297 | 2297 | 2297 | 2297 | 2297 | 2297 | 2297 |

## Performance in Heating Mode
### Air Conditioning Application *

| **HEATING CAPACITY (kW)** | 587 | 652 | 812 | 858 | 1140 | 1305 | 1461 | 1604 | 1741 |
| **COOLING CAPACITY (kW/kW)** | 7.80 | 7.60 | 8.04 | 7.76 | 7.79 | 7.59 | 7.59 | 7.15 | 6.85 |
| **EER (kW/kW)** | 5.44 | 5.31 | 5.25 | 5.07 | 5.45 | 5.50 | 5.38 | 5.05 | 4.94 |
| **EUROVENT CLASS** | A | A | A | A | A | A | A | A | A |

### Sound Level **

| **SOUND POWER LEVEL, 100% LOAD (dB(A))** | 102 | 102 | 102 | 102 | 103 | 103 | 103 | 103 |
| **SOUND POWER LEVEL, 50% LOAD (dB(A))** | 94  | 94  | 94  | 94  | 94  | 94  | 94  | 94  |

### Physical Data

| **NUMBER OF COMPRESSORS/CIRCUITS** | 1 / 1 | 1 / 1 | 1 / 1 | 1 / 1 | 2 / 2 | 2 / 2 | 2 / 2 | 2 / 2 | 2 / 2 |
| **CAPACITY CONTROL RANGE**         | 20% ... 100% | 10% ... 100% |
| **LENGTH (mm)**                    | 3059 | 3059 | 3290 | 3290 | 4730 | 4730 | 4730 | 4730 | 4730 |
| **WIDTH (mm)**                     | 1087 | 1087 | 1237 | 1237 | 1164 | 1164 | 1255 | 1255 | 1255 |
| **HEIGHT (mm)**                    | 1743 | 1743 | 1950 | 1950 | 1997 | 1997 | 2051 | 2051 | 2051 |

* Calculations in accordance with EN14511-3:2013. Conditions in cooling mode: 12/7°C, 35°C (30XAV) and 12/7°C, 30/35°C (30XW-V). Conditions in heating mode: 40/45°C, 10/7°C (30XWHV).

** Measured in accordance with ISO9614-1. For 30XAV, data refer to unit with option 279 (compressor enclosure) included. For 30XW-V/30XWHV, data refer to unit with option 257 (low noise) included.

+ This model is not Eurovent certified, as out of Eurovent certification program scope.

Carrier participates in the ECP program for Liquid Chilling Packages and Hydronic Heat Pumps. Check ongoing validity of certificate on www.eurovent-certification.com

### Main Features

- Fast capacity recovery
- Hydronic module (30XAV)
- Variable water flow control (30XAV)
- Coils protection for installation in mildly/highly polluted environments (30XAV)
- Low noise
- Customizable heat exchangers configuration
- Various BMS communication protocols, including BacNet over-IP
- EMC classification according IEC61800-3, class C2
- Leak detection signal