

WATER AND GAS - LASTING CONCEPTS

Whenever natural gas is available, the direct-fired double-effect 16DN absorption liquid chillers offer a high-performance solution, compared with traditional machines using mechanical compression.

Carrier absorption chillers/heaters permit a considerable reduction in the power consumption required to produce chilled water - and this with an efficiency that is comparable to traditional systems.

Further savings are possible, as these machines also operate in heating mode, making the installation of an additional boiler unnecessary. With the intrinsic benefits of absorption systems, air conditioning using gas will become a long-term choice of the future.

CARRIER HAS THE ANSWER TO YOUR REQUIREMENTS

Carrier has always been a strong force in the absorption sector and has invested heavily in research and development of a new machine base, launched with the 16DN product range.

This is proof of Carrier's desire to continually improve in order to satisfy market demands. Better control of the operating costs is a significant factor, as shown by the increased demand for absorption chillers.

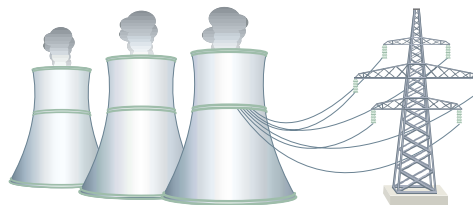
With the 16DN "Absolute" absorption chillers Carrier becomes the only manufacturer to offer a complete range that is globally available and supported by dedicated teams from the unit selection right through to unit maintenance.



HEATING THE DOU

AN IMPORTANT OBJECTIVE: MINIMISING ENERGY CONSUMPTION

The 16DN "Absolute" absorption units require very little electrical energy.



The installation costs for the electrical system can be significantly reduced, especially in cases where additional transformer capacity would otherwise be required. The most important energy cost reduction factor is the high-efficiency double-effect system - no matter what energy source is used: natural gas or fuel oil (option). This results in very low operating costs and further reduces system costs.

CHANGE OVER TO HEATING WITHOUT A BOILER

With the 16DN units you can forget additional boilers that would complicate the installation, increase initial costs and require extra floor space. Thanks to the centralised hot and chilled water production of direct-fired machines such as the 16DN "Absolute" unit users can easily change over from cooling to heating mode.



AND COOLING DOUBLE-EFFECT ALTERNATIVE

EFFICIENT
CLEAN

With the 16DN "Absolute" range Carrier challenges many preconceived ideas. Air conditioning using absorption is very competitive: it offers easy installation, is ideal for cooling and heating and provides quiet, economical operation.

The 16DN "Absolute" range lets you discover a true alternative for the air conditioning of commercial buildings, airports and hospitals.

A CAPACITY RANGE TO MEET
ALL YOUR REQUIREMENTS



A CREATIVE DESIGN FOR COMPACT MACHINES

For the 16DN "Absolute" Carrier has created a unique concept that permits locating the evaporator/absorber and low-temperature generator/condenser sub-assemblies in a single shell. The reduced machine size also results from the novel arrangement of the internal components.

[23%]
smaller
footprint

As a result the footprint is reduced by an average of 23%, compared to other absorption machines on the market. Another plus!

MORE ENVIRONMENTAL CONSTRAINTS

In the light of planned, more stringent refrigerant legislation absorption technology offers a major advantage. No more worries about refrigerant leaks, replacement and bans.

Primary energy consumption:
Depending on the country, air conditioning using natural gas can be comparable to "electrical" air conditioning, both in terms of overall COP and CO₂ emissions. This is particularly likely to be true in countries that rely heavily on fossil fuels in the production of electricity.



A CONCEPT THAT OPTIMISES RELIABILITY AND QUIET OPERATION

With a minimum of moving parts 16DN units maximise vibration reduction and thus the risk of damage. Noise levels are very low, making expensive acoustical treatment unnecessary. Due to the unique casing concept the risk of leaks is also significantly reduced.

The 16DN units are reliable and simple to operate. The variable-speed control of the solution pump permits optimised flow rate in all conditions (no manual control) and improved efficiency at part load. The automatic non-condensable purge system, together with the vacuum pump, complete the 16DN machines, and ensure optimised operation of the absorption cycle.

The units are easy to install, simple to maintain and exceptionally reliable, and offer a solution that is ideally suited for commercial applications.

ARI 560 PERFORMANCE GUARANTEE

Thanks to regular tests Carrier guarantees conformity with published performance, based on the compliance with ARI standard 560, applicable for absorption liquid chillers.

Carrier's choice of ARI 560 as reference standard, the strictest in terms of tolerance, and Carrier's voluntary commitment to publish performance data in accordance with this standard are important guarantees for system designers and installers.

16DN TECHNICAL DATA

		10	12	15	18	21	24	28	33	36	40	45	50	60	66
Nominal cooling capacity	kW	352	422	528	633	739	844	985	1161	1266	1407	1583	1758	2110	2321
Nominal heating capacity	kW	294	352	440	528	616	704	821	968	1055	1173	1319	1466	1762	1938
Operating weight	kg	5330	5700	6680	7120	8270	8930	10810	11470	12510	13500	16550	17320	24460	26400
Overall length	mm	2966	2966	3638	3638	3679	3679	4780	4780	4788	4788	4867	4867	5510	6122
Overall width	mm	1797	1797	1830	1830	2034	2034	2072	2072	2299	2299	2493	2493	2906	2906
Overall height	mm	2082	2082	2056	2056	2313	2313	2381	2381	2630	2630	2820	2820	3102	3102

Note: Ratings are based on ARI* 560, latest edition, 12.2/6.7°C (0.043 l/s-kW) chilled water, 29.4°C (0.072 l/s-kW) cooling water, 54.4/60°C hot water, fouling factor 0.044 m² K/kW for absorber and condenser, 0.0176 m² K/kW for the evaporator, natural gas calorific value 37260 kJ/m³ (HCV**), No. 2 oil heating value 39020 kJ/l.

* ARI - Air Conditioning and Refrigeration Institute (US)

** HCV - Higher Calorific Value

OPTIONS AND ACCESSORIES

1724 kPa/2068 kPa water boxes (option)

Special tubing (option)

Unit voltage 208, 230, 400, 460 or 575-3-50/60 (option)

Dual-fuel burner (option)

Low Nox (accessory)

Shipping configuration (one- or two-piece) (option)

Isolation package (option/accessory)

Condenser water flow switch (option)

Carrier Limited (Korea)
Quality Management System
ISO 9001:2000



Quality management system approval



Order No.: 11686-20-02/2004
Supersedes order No.: New
Manufacturer reserves the right to change
any product specifications without notice



A member of the United Technologies Corporation family



ABSOLUTE™

GAS-FIRED ABSORPTION LIQUID
CHILLERS/HEATERS

16DN



OPTIMISED ENERGY MANAGEMENT