

AQUAFORCE™
WATER-COOLED LIQUID CHILLER

THE FORCE IS WITHIN



Technical Specifications										
		30XW0552P	30XW0756	30XW0902	30XW0956	30XW1052	30XW1156	30XW1152P	30XW1262	30XW1306
Nominal Cooling Capacity*	kW	571	747	851	936	1073	1139	1144	1243	1292
Input Power	kW	96	128	146	161	192	193	193	218	221
Refrigerant		HFC-134a								
Circuit A	Kg	135	165	150	110	85	105	130	130	155
Circuit B	Kg	-	-	-	110	95	110	140	140	135
Compressor										
Circuit A	Nos.	1	1	1	1	1	1	1	1	1
Circuit B	Nos.	-	-	-	1	1	1	1	1	1
Control		Pro-dialog Plus, Electronic Expansion Valve (EXV)								
Evaporator										
Nominal Water Flow*	USGPM	390	510	581	639	732	778	781	848	882
Nominal Water Pressure Drop*	kPa	26	32	54	74	66	79	47	64	84
Water Connection (Victaulic)	DN	150	200	150	200	150	200	200	200	200
Max. Water Side Pressure	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000
Condenser										
Nominal Water Flow*	USGPM	483	638	720	797	913	972	977	1053	1105
Nominal Water Pressure Drop*	kPa	41	42	42	43	55	57	37	52	55
Water Connection (Victaulic)	DN	150	200	200	200	200	200	200	200	200
Max. Water Side Pressure	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000
Electrical Data										
Power Supply		400V±10% - 3Ph - 50Hz								
Star-up Method		Star-delta Start								
Control Power Supply		24V via Internal Transformer								
Nominal Unit Current Drawn*										
Circuit A	A	162	214	232	144	162	162	162	193	214
Circuit B	A	-	-	-	144	162	162	162	162	162
Maximum Unit Current Drawn										
Circuit A	A	242	317	351	217	242	242	242	295	317
Circuit B	A	-	-	-	217	242	242	242	242	242
Maximum Start Up Unit Current										
Circuit A	A	414	587	587	450	450	450	414	587	587
Circuit B	A	-	-	-	450	450	450	414	450	450
Unit Length	mm	3048	3175	3073	4674	4013	4013	4699	4699	4699
Unit Width	mm	1016	1143	1143	1194	1041	1041	1067	1194	1194
Unit Height	mm	1753	1956	1905	1930	1854	1905	2007	2057	2057
Shipping Weight	Kg	3312	3961	3977	5796	5491	5731	6749	6994	6802
Operating Weight	Kg	3025	3896	3923	5708	5198	5666	6684	6793	6737

* Nominal Conditions :-
Evaporator : 44 °F leaving water temperature; 2.4 USGPM/TR water flow rate; 0.0001 (hr-sqft-F)/BTU fouling factor
Condenser : 85 °F entering water temperature @ 100% load; 3.0 USGPM/TR water flow rate; 0.00025 (hr-sqft-F)/BTU fouling factor



For more details, please contact our sales office:

Factory & Corporate Office: Carrier Airconditioning & Refrigeration Ltd, Kherki Daula Post, Narsingpur, Gurgaon 122004, Tel: 0124-4825500
Sales Offices:- Delhi/NCR: 0124-4707311/4707333 Ghaziabad: 0120-4183260 Lucknow: 0522-4158703/4158710 Chandigarh: 0172-5007549/ 5007550
Jaipur: 0141-5113444/5113999 Indore: 0731-4070378 Mumbai: 022-61700700 Ahmedabad: 079-44820400 Pune: 020-67045100 Kolkata: 033-40524354
Chennai: 044-66448888 Bangalore: 080-43442000 Hyderabad: 040-41100222 Cochin: 0484-4029001/0

CIN: U74999HR1992FLC036104 / Website: www.carrierindia.com / Email: bssindia@carrier.utc.com

TOTALINE

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ABSOLUTE RELIABILITY | QUICK AND EASY INSTALLATION | ENVIRONMENTALLY SUSTAINABLE | WIDE APPLICATION

Carrier India



Dr. Willis Carrier

Carrier is a part of UTC Building & Industrial Systems, a unit of United Technologies Corp.(UTC), a leading provider to the aerospace and building systems industries worldwide. UTC was ranked at 151st position in Fortune 500 list of global corporations in 2014.

Built on Dr. Willis Carrier's invention of modern air conditioning in 1902, Carrier's research, expertise and innovation have resulted in market leading solutions. We recognize the vital importance of maintaining a responsible balance between the comfort we create today and the world we live in tomorrow. Millions of people trust Carrier's leadership in delivering efficient solutions. To know more, please visit <http://www.carrier.com>.

Over the years, Carrier India has significantly contributed in promoting sustainability. Carrier is the only company in the world to be a founding member of the Green Building Councils of the U.S., Argentina, China, India, Singapore and France. In fact, Carrier was instrumental in launching the U.S. Green Building Council® (USGBC) in 1993 and was the first company in the world to join the organization.



It invests in R&D resources to advance energy efficiency, ozone layer protection and low global warming technologies in its products. Carrier's AdvanTEC Solutions Center is a natural evolution of Carrier's approach to sustainability and supports customers around the world in developing strategic, energy-efficient and custom-engineered building solutions.

Carrier's efforts in promoting sustainability can be quantifiably measured by means of the Carrier CO2NSERVATION Meter, which meticulously calculates the avoided greenhouse emissions with the help of Carrier products, globally since 2000. To know more about the Carrier CO2NSERVATION Meter, please visit <http://www.naturalleader.com>.



ACE(Achieving Competitive Excellence) is our proprietary operating system to ensure world-class quality in our products and processes. With its relentless focus on increasing efficiency and reducing waste, ACE is integral to Carrier's performance model. Carrier's facilities worldwide are using the operating system to improve quality and customer satisfaction while lowering cost.

Carrier's presence in India dates back to 1986, when Carrier India was established. In the year 1988, the first manufacturing facility was commissioned in Gurgaon, Haryana. Spread in an area of 19 acres, this state-of-the-art facility consists of highly automated manufacturing unit, an excellent R&D Center and an advanced Quality Clinic. Currently, products manufactured in this facility include Cassettes, Ducted Splits, Package Units, Air Cooled & Water Cooled Screw Chillers, Air Cooled & Water Cooled Reciprocating Chillers, Fan Coil Units, Air Handling Units, Refrigeration products and Fire & Security products.

Snapshots of Carrier India, Gurgaon manufacturing facility



Our comprehensive Environment, Health & Safety (EH&S) program establishes a framework and provides tools for implementing our EH&S practices into our business & culture. The Carrier India, Gurgaon facility holds a distinctive record of delivering over 17 million man hours without a lost work day incident, clearly citing the measures of safety followed here.

Carrier India has 14 sales and service offices, more than 800 sales and service channel partners - throughout the country, ensuring efficient solutions and quality services at customer's doorstep. To know more visit <http://www.carrierindia.com>.

Made in India. Made for India.

Presenting 30XW water cooled screw chillers manufactured at Carrier Gurgaon Facility



Progressing All Technologies Simultaneously

The main objective of Carrier is to achieve optimal balance between technological progress and environmental care - synonymous with performance and guarantee for our future.

The AquaForce™ range is currently available from India factory in 9 models from 571 kW to 1292 kW and offers the best solution for any individual project and site requirement.

Features and Benefits

Reliable Screw Compressor

- Carrier's own '06T' semi-hermetic screw compressor with direct driven motor
- Variable capacity slide valve
- Oversized bearing and suction gas cooled motor
- All components are easily accessible on site – minimized down time
- Patented line-design rotors and microprocessor control – guaranteed accurate refrigerant meshing & enhanced service life

Compact Foot Print

- 1.0 m ~ 1.2 m width – easy through standard doorway
- Saves plant room space – reduces investment
- Best choice for new construction and retrofit projects

Auto Adaptive Control

- Automatic compressor unloading in case of abnormally high condensing pressure
- Patented control algorithm preventing excessive compressor cycling

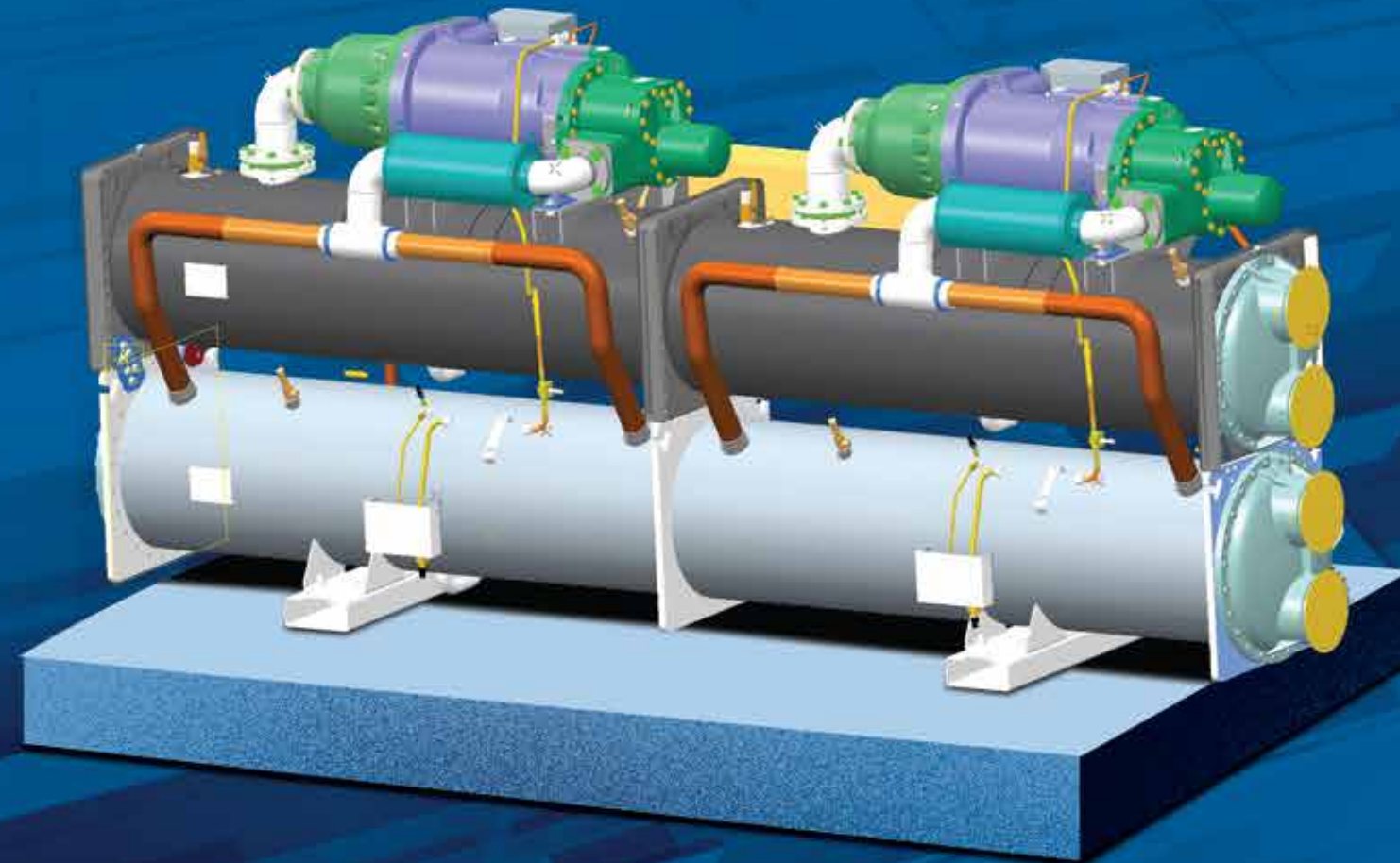
Quick & Easy Installation

- Simplified electrical connection
 - Main disconnect switch with high trip capacity
 - Transformer to supply integrated control circuit
- Simplified hydronic connection
 - Victaulic connection on evaporator & condenser
 - 2 pass design – Inlet/Outlet on same side
 - Only electrical wiring & piping connection needed at site

Safe Operation

- Reversal/phase losing protection
- Compressor protected against thermal overload, high pressure and low oil pressure
- Automatic compressor unloading in case of excessing condensing temperature
- Protection against current imbalance and electrical overload
- Low chilled water temperature protection

AQUAFORCE™
WATER-COOLED LIQUID CHILLER



AHRI-550/590 and 551/591 Certified

Exceptional Endurance Test

- Exceptional endurance tests
 - Partnerships with specialised laboratories and use of limit simulation tools (finite element calculation) for the design of critical components
 - Transport simulation test in the laboratory on a vibrating table and then on endurance circuit.

Economizer System*

- Economizer system with EXV permits considerable increase in cooling capacity and contributes to optimized efficiency
- Electronic expansion valve (EXV) allows operation at lower condensing pressure and improved utilization of evaporator heat exchange surface (superheat control)

Multiple Circuit Design

- Independent refrigerant circuits
- Independent electrical circuits

Efficient Heat Exchanger

- High efficiency flooded evaporator
- Inbuilt electronic flow switch
- Auto setting basis cooler size and fluid type

Environmentally Sustainable

- HFC-134a refrigerant
 - Refrigerant of the HFC group with zero ozone depletion potential
- Leak-tight refrigerant circuit
 - Reduction of leaks as no capillary tubes and flare connections are used
 - Verification of pressure transducers and temperature sensors without transferring refrigerant charge

*For select models only

Pro-Dialog Plus Control

Pro-Dialog Plus combines intelligence with operating simplicity. The control constantly monitors all machine parameters and precisely manages the operation of compressors, electronic expansion devices and the evaporator water pump for optimum energy efficiency.

- Energy management**
 - Internal time schedule clock controls chiller on/off time and operation at a second set-point.
 - Set-point reset based on the return water temperature.
 - Master/slave control of two chillers operating in parallel with operating time equalization and automatic changeover in case of a unit fault.
- Easy-to-use**
 - User interface with large touch screen -120 mm x 99 mm (optional) for intuitive access to the operating parameters. The information is in clear text and can be displayed in local language (please contact your Carrier India representative).



Pro-Dialog Plus Interface

Remote Management (standard)

The 30XW series chiller is equipped with an RS485 serial port that offers multiple remote control, monitoring and diagnostic possibilities. Carrier India offers a vast choice of control products, specially designed to control, manage and supervise the operation of an air conditioning system. Please consult your Carrier India representative for more information.

The 30XW series chiller also communicates with other building management systems via optional communication gateways.

Connection terminal allows remote control of the 30XW series chiller by wired cable :

- Start/stop:** opening of this contact will shut down the unit.
- Dual set-point:** closing of this contact activates a second set-point (example: unoccupied mode).
- Demand limit:** closing of this contact limits the maximum chiller capacity to a predefined value.
- Operation indication:** this volt-free contact indicates that the chiller is operating (cooling load) or that it is ready to operate (no cooling load).
- Alert indication:** this volt-free contact indicates the necessity to carry out a maintenance operation or the presence of a minor fault.
- Alarm indication:** this volt-free contact indicates the presence of a major fault that has led to the shut-down of one or several refrigerant circuits.

Operating Range

Cooling		
Evaporator	Minimum	Maximum
Entering temperature at start-up	-	35°C
Leaving temperature during operation	3.3°C	20°C
Entering/leaving temperature difference at full load	2.8°C	11.1°C
Condenser		
Entering temperature at start-up	13°C	-
Leaving temperature during operation	19°C	50°C
Entering/leaving temperature difference at full load	2.8°C	11.1°C

Wiring Diagram

