Heat Reclaim Chillers
15 to 400 Tons

Selection Guide

Model	Chiller Type	Nominal Cooling Capacity, Tons*	Nominal Heat Capacity, MBH*/**	Condensing Type
30MP	Water-Cooled	15 – 71	200 – 945	Full
30HX	Water-Cooled	75 – 265	1,027 – 3,864	Partial or Full
30XW	Water-Cooled	150 – 400	1,935 – 5,160	Full
30RB	Air-Cooled	60 – 190	770 – 2,614	Partial or Full

* Hot water from 115° F to 130° F. Chilled water 44° F / 54° F
** 1MBH = 1,000 BTU/hr

Benefits at a Glance

For Building Owners & Managers

- Reduces operating expenses
- Easy to maintain
- Quiet operation
- Reliable operation
- Environmentally sound refrigerant
- Building automation system compatible

For Consulting Engineers

- ASHRAE 90.1
- HFC refrigerant
- High-efficiency optimization
- Ideal for replacement projects
- Semi-hermetic motor

For Contractors

- Easy to break down
- Ideal for replacement
- Diagnostic controls
- Reliable performance
- Reduces installation expenses
- Compact footprint

Applications

There are many different types of heat recovery applications, including:

- Hotels
- Hospitals
- Casinos
- Universities
- Manufacturing Plants
- Office Buildings

Standard condensing temperatures (up to 115° F water produced) are ideal for many applications, including: VAV reheat, radiant floor heating, pool heating, and pre-heating domestic water).

Elevated condensing temperatures (up to 140° F water produced) can produce point of use water for domestic applications (with an appropriate intermediate heat exchanger), laundry and various process applications.

A Legacy of Training

Willis H. Carrier began training members of the heating, ventilation, air conditioning and refrigeration industry in 1905. Carrier continues to promote technical expertise in the industry with the expansion of its sustainable solutions curriculum and has recently been named a U.S. Green Building Council Education Provider (USGBC EP).

To earn this status, Carrier's course materials were reviewed by a panel of USBGC peers and deemed to provide the high level of quality required for training Leadership in Energy and Environmental Design (LEED®) professionals. The courses and workshops supporting LEED-Accredited Professional and Green Associates credential maintenance are administered through Carrier University.

1-800-CARRIER carrier.com/commercial

Heat Reclaim Chillers

Capturing Heat for Useful Energy Savings

AQUAFORCE®

AQUASNAP®

Buildings are responsible for 40 percent of the total energy consumption. Of the energy consumed in commercial buildings, 43 percent is used for space and water heating. If a more efficient means of providing heat could be implemented it would represent a tremendous opportunity to reduce energy consumption in buildings and thus reduce total energy consumption. There is a more efficient means of generating hot water through the application of chiller systems with heat reclaim capabilities. Carrier chillers with heat reclaim capabilities can do just that; produce chilled water controlled to the necessary temperature while generating hot water as a by-product of the chilled water system.

How It Works

During cooling only operation, the chiller produces a controlled source of chilled water leaving the evaporator while dissipating heat through the condenser and ultimately to the environment. When there is a simultaneous need for chilled water and hot water, these chillers have the capability to operate in heat recovery mode. The recovered heat can be redirected for various heating applications, which saves energy while maintaining conditions.

Efficiency

Heat reclaim captures energy that would otherwise be wasted to the atmosphere. It is possible to capture the rejected heat from the condenser and use it to produce hot water in your facility. Therefore, overall system efficiencies can be significantly increased. Unlike typical boilers with COP (coefficient of performance) less than 1.0, capturing waste heat from a heat reclaim chiller can result in COPs exceeding 5.0.

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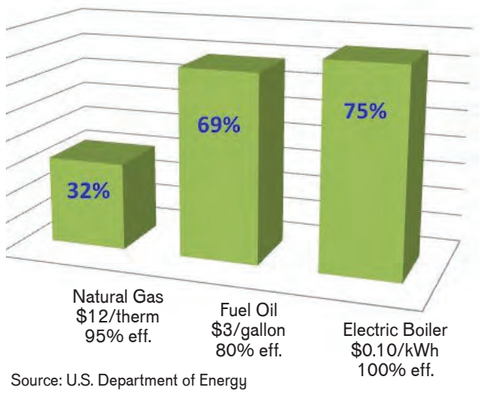
Operating Savings vs Typical Boilers



Source: U.S. Department of Energy

Energy Savings

A simple way to determine the viability of a heat reclaim system is to compare the potential energy cost savings between a conventional hot water boiler and the heat reclaim chiller:

- A 100 ton Carrier chiller operating in heat reclaim mode can provide 1.7 million BTUs/hr of heat for your building
- The same 100 ton Carrier chiller operating in heat reclaim mode can reduce natural gas costs for heating by over $75,000 per year (4,500 run hours per year, $.80/therm natural gas, vs. 80 percent efficient boiler)

In many applications, payback is obtainable in approximately one to two years. Contact your Carrier sales representative to perform a simple cost savings analysis for your facility.

Environmental Leadership

Carrier has long been committed to the environment and its sustainability. Carrier's solution combines the ability to capture heat with high efficiency chillers for overall system efficiency. This can maximize your opportunity to obtain LEED® (Leadership in Energy and Environmental Design) credits and reduce your facility's overall carbon footprint.

AquaForce® 30XW

- 150 to 400 tons
- Hot water up to 140° F
- HFC-134a refrigerant
- Exceeds ASHRAE 90.1 standards
- Carrier *Comfort*Link Controls

AquaSnap® 30RB

- 60 to 190 tons
- Hot water up to 130° F
- Partial and full condensing
- Puron® refrigerant (HFC-410A)
- Exceeds ASHRAE 90.1 part-load standards
- Carrier *Comfort*Link Controls

ComfortLink Controls

AquaSnap® 30MP

- 15 to 142 tons (duplex unit version)
- Hot water up to 140° F
- Puron® refrigerant (HFC-410A)
- Exceeds ASHRAE 90.1 standards
- Condenserless version available
- Carrier *Comfort*Link Controls

External controls required to control to a leaving condenser water setpoint for 30MP.

AquaForce® 30HX

- 75 to 265 tons
- Hot water up to 135° F
- Potable water available
- HFC-134a refrigerant
- Exceeds ASHRAE 90.1 part-load standards
- Condenserless version available
- Carrier *Comfort*Link Controls