



INSTALL CONFIDENCE






# YORK® YHAU-C STEAM ABSORPTION CHILLERS

Increasing Efficiency and Reliability through Innovation

# Advancing Efficiency by Design

The YORK® YHAU-C Single-Effect Steam absorption chiller uses an innovative two-step evaporator and absorber cycle that is more efficient than conventional cycles. By splitting the absorption process into two steps, lithium-bromide solution concentrations are lower in the system, resulting in:

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**Steam (condensate) drain cooler:** Uses remaining heat from the condensate to preheat dilute lithium-bromide solution going to the generator, which reduces steam consumption.
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**Higher system efficiency:** Lower pressure steam into the generator can be used to drive the absorption cycle.
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**Effective heat transfer:** Solution plate heat exchanger optimizes efficiency by enabling effective heat transfer between the diluted and the concentrated lithium-bromide solutions.

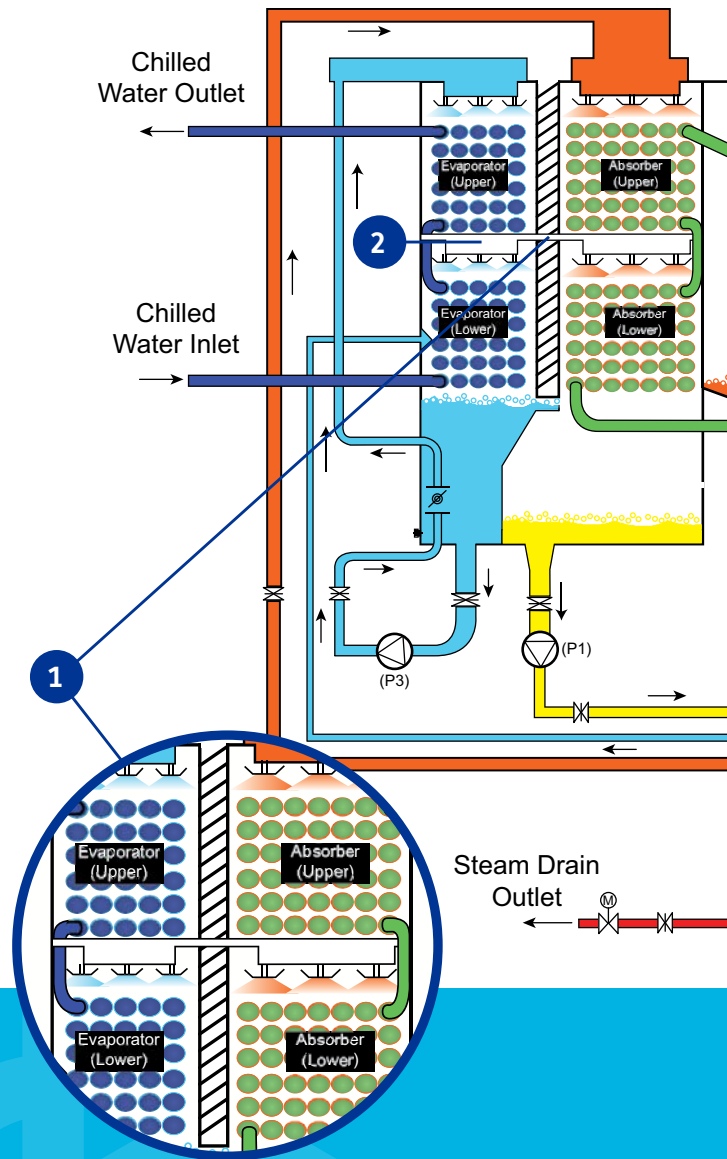
# Flexible Operating Envelope

The YORK® YHAU-C single-effect design combines the flexibility of a wide operating envelope with the efficiency and reliability made possible by today's advanced technology. The innovative YHAU-C design is optimally suited for lower steam pressures that are commonly found in commercial cooling and industrial process applications.

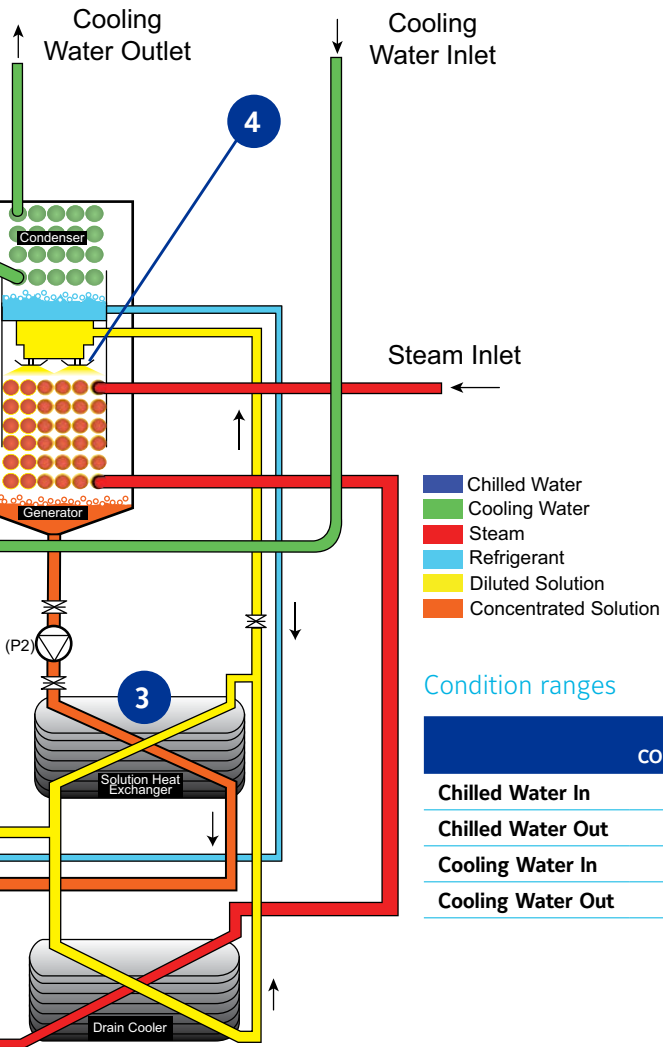
## YHAU-C application ranges

DESIGN PARAMETER	TEMPERATURE RANGE
Leaving chilled-water temperature	As low as 4°C (39°F)
Entering cooling-water temperature	As high as 37°C (99°F)
Steam pressure	0.3–3.0 bar(g)
Leaving condensate-water temperature	As low as 70°C (158°F)

Single-effect steam cycle with innovative YORK® two-step evaporator and absorber design



**1. Two-step evaporator and absorber design** has two pressure levels that uniquely divide the absorption process into two steps. The chilled water flows through the tubes in series through the two evaporators while the concentrated lithium-bromide solution is distributed in the absorber shell side in the opposite direction. This enhances absorption of the refrigerant into the concentrated solution, reducing solution concentrations and overall pressure. This makes the unit more efficient and reliable than conventional designs.



Condition ranges

	TYPICAL CONDITIONS 1	TYPICAL CONDITIONS 2
Chilled Water In	12°C	12°C
Chilled Water Out	7°C	7°C
Cooling Water In	32°C	30°C
Cooling Water Out	40°C	38°C

**2. Gravity-fed distribution system for the evaporator/absorber** employs stainless steel material that prevents corrosion and ensures performance and long life.

**3. High-efficiency plate heat exchanger** provides increased efficiency over conventional shell and tube.

**4. Falling-film generator design** provides superior heat transfer compared to a conventional flooded generator. This design also reduces the required amount of lithium-bromide solution to be circulated, decreasing startup time from a cold start. Stainless steel tubes are adopted to prevent stress corrosion cracking and intermediate tube supports reinforce and extend unit life.

## Minimizing Total Cost of Ownership

World-class YORK® engineering, support and service reduce the cost of ownership by simplifying startup and chiller operation over the life of the system. Here's how:

**Fully automatic purging system** provides trouble-free operation by purging and removing non-condensable gases without operator intervention.

**Superior hermetic integrity** is ensured by high quality processes and rigorous helium leak detection technique.

**Tubes made with de-oxidized low phosphorus (DLP) copper** protect against corrosion cracking. Water boxes are coated with epoxy paint for added corrosion resistance.

**Control center with graphical animated LCD display** lets the user see several operating parameters at once. Present and past operational status, data recording and chiller safeties are accessible at a touch.

**Isolation valves on the suction and discharge** of the solution and refrigerant pumps allow quick and easy servicing of pumps, which typically have a 60,000-hour life.

**Factory functional testing** on single-piece shipments, ensures control-panel and safety-device operation to reduce on-site startup time in the field.



## Why install anything but YORK®?

**You want high performance. You expect efficiency. And you need a chiller that gives you confidence.**

When your reputation is at stake, it's smart to demand nothing less than YORK® technology and service. That's because we provide local service and parts to keep your equipment operating at peak performance year after year. Enjoy the peace of mind knowing that trained service experts and Original Equipment Manufacturer parts are available from Johnson Controls – the largest HVAC service and preventative maintenance organization in the world.



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