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 ensure your equipment operates 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.
YORK® YHAU-CL HOT WATER ABSORPTION CHILLERS

Ideally Suited for Combined Heat and Power (CHP) Applications
Maximizing Performance by Design

The YORK® YHAU-CL Single-Effect Hot Water 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:

- **Higher system efficiency:** Lower source hot-water temperature into the generator can be used to drive the absorption cycle.
- **Superior reliability:** Virtually eliminates crystallization risk and reduces the potential for corrosion.
- **Lower total operating cost:** Can operate with lower hot water flow rates and reduced pumping energy.

The Most Flexible Operating Envelope

The YHAU-CL single-effect absorption chiller’s two-step design provides a wide operating envelope utilizing waste heat as low as 158°F (70°C) where typically competitive offerings cannot operate. YORK® technology provides the flexibility to handle combined heat and power (CHP) systems, comfort or industrial-process cooling applications with outstanding efficiency and reliability.

### Available YHAU-CL water temperature ranges

<table>
<thead>
<tr>
<th>WATER CHARACTERISTIC</th>
<th>TEMPERATURE RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering cooling-water temperature</td>
<td>As high as 37°C (98°F)</td>
</tr>
<tr>
<td>Leaving chilled-water temperature</td>
<td>As low as 4°C (39°F)</td>
</tr>
<tr>
<td>Entering-hot-water temperature</td>
<td>As low as 70°C (158°F)</td>
</tr>
<tr>
<td>Leaving-hot-water temperature</td>
<td>As low as 60°C (140°F)</td>
</tr>
</tbody>
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Single-effect hot water cycle with innovative YORK® two-step evaporator and absorber design

1. **Two-step evaporator and absorber** splits the absorption process into two steps, similar to how a series–counter-flow arrangement splits the work between two chillers. Therefore compared to conventional designs, the YHAU-CL absorption cycle utilizes lower lithium–bromide solution concentrations for increased efficiency and lower cost of ownership.
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 handling the sequence of purging and removing non-condensable gases without operator intervention.

- **Superior hermetic integrity** is ensured by high quality processes and rigorous helium leak detection technique conforming to the industry standard of $2.03 \times 10^{-6} \text{ Pa-m}^3/s$.

- **Tubes made with de-oxidized low phosphorus (DLP) copper** protect against corrosion cracking. Water boxes are coated with a special non-porous 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** with circulating fluids on the shell side, on single-piece shipments, assures control-panel and safety-device operation to reduce on-site startup time in the field.

2. **Gravity-fed distribution system for the evaporator/absorber** employs stainless steel material that not only prevents corrosion, but also maintains tube surface falling-film condition that ensures performance and long unit life.

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

4. **Falling-film generator design** intermediate tube supports reinforce and extend unit life, and 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 arranged in a series counter-flow arrangement allowing for lower leaving-hot-water temperatures.