Ascend™ Air-to-Water Heat Pump



Model ACX

Efficient. Sustainable. Reliable.
The all-electric solution for modern commercial buildings.

Meeting the demands of modern building decarbonization and operational efficiency requires more than just high performance—it calls for innovative, flexible technologies designed to adapt to real-world challenges. The Trane® Ascend™ Air-to-Water Heat Pump Chiller (ACX) leads the way with a suite of exclusive features: thermal energy storage integration, dual electronic expansion valves, and Symbio® 800 equipment controller with active hot water reset, all purpose-built to maximize energy savings and comfort.

Built on Trane's proven Ascend platform and available in capacities from 80 to 230 tons, ACX incorporates advanced vapor injection compressors (80–120 ton models) for powerful heating—even in extreme cold. The waterside reversing valve enables counter-current flow in both heating and cooling mode, allowing for additional heating capacity and improved efficiency in heating mode, enhancing year-round flexibility. With low-GWP R-454B refrigerant and all-electric operation, the ACX aligns with sustainability goals and evolving energy regulations.

Operate More Efficiently

Addressing the challenge of high energy costs, the Trane® Ascend™ model ACX, as a heat pump, delivers three-times more energy efficient than other forms of electric heating.* This significant energy savings reduces operational costs and ensures compliance with stringent energy regulations, making it an economical and sustainable choice for large commercial buildings.

Low GWP R-454B Refrigerant

Tackling the environental impact challenge, the Trane® Ascend™ model ACX utilizes low GWP R-454B refrigerant to minimize direct emissions. As an all-electric heat pump, it supports your building's decarbonization journey, helping you meet sustainability goals and comply with evolving environmental regulations, thus contributing to a greener future.

Vapor Injection Technology for Low Ambient Heating

Solving the challenge of reliable heating in cold climates, the advanced vapor injection technology in the Ascend™ ACX 80-120T models allows for efficient heating even in ambient temperatures as low as -15°F (-26°C). As a heat pump, it ensures consistent performance and comfort in colder climates, eliminating the need for oversized units and reducing operational costs, providing a dependable solution for extreme weather conditions.

Capacity Range	80-230T 1000-2500 MBH heating
Operating Map	**Cooling:** 20°F to 68°F, -4°F to 125°F ambient **Heating:** 55°F to 145°F (80-120T) **Heating:** 68°F to 140°F (140-230T) **Max leaving temp at minimum ambient (80-120T)** *(requires waterside reversing valve)*: 145°F leaving at 15°F ambient; 135°F leaving at 0°F ambient; 115°F leaving at -15°F ambient **Max leaving temp at minimum ambient (140-230T):** 140°F leaving at 55°F ambient; 90°F leaving at 0°F ambient
Compressor	Scroll with variable volume ratio (140-230T), vapor injection scroll (80-120T)
Refrigerant	Next-gen, low-GWP R-454B
Controls	Symbio® 800

*Trane Self-Paced Learning. Decarbonization/ Electrification of HVAC Systems. APP-CMC074-EN

Ascend™ Air-to-Water Heat Pump Model ACX

VARIABLE-SPEED FANS

EC fan motors with VFDs improve efficiency and reduce sound at part load

SCROLL COMPRESSORS

Energy-optimizing scroll compressors with vapor injection technology

PUMP PACKAGE *(Optional)*

Fully integrated for easy installation

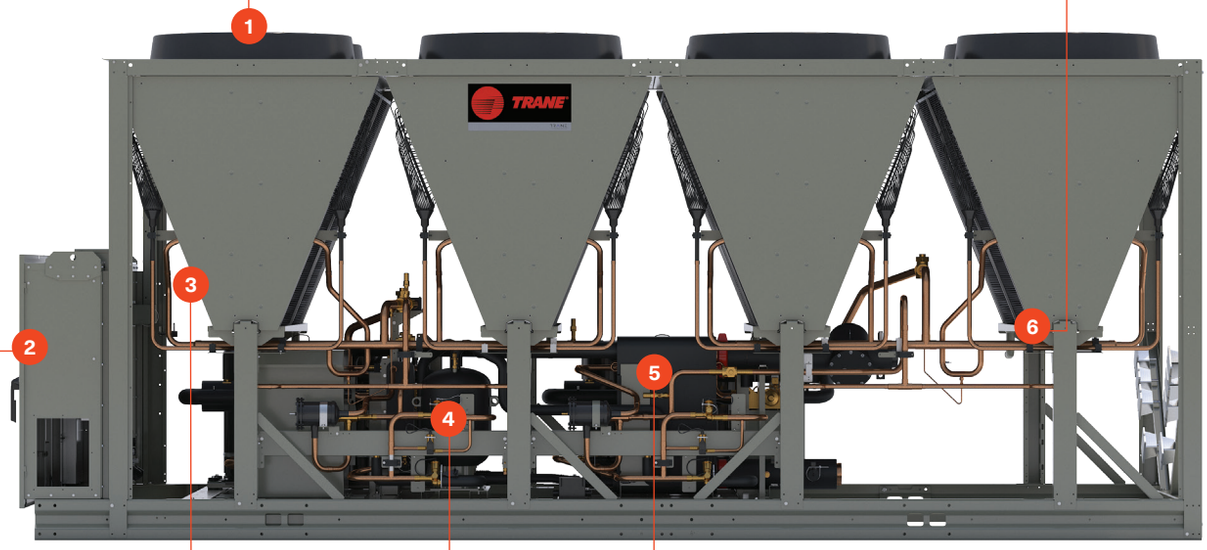
DRAIN PAN *(Optional)*

Collects condensate during heating and defrost

SYMBIO 800®

Next-generation controller platform with enhanced connectivity, flexibility and serviceability





ROUND COPPER TUBE ALUMINUM

Fin condenser coil modular design in 'V' shape for maximum performance in a small footprint

DUAL ELECTRONIC EXPANSION VALVES

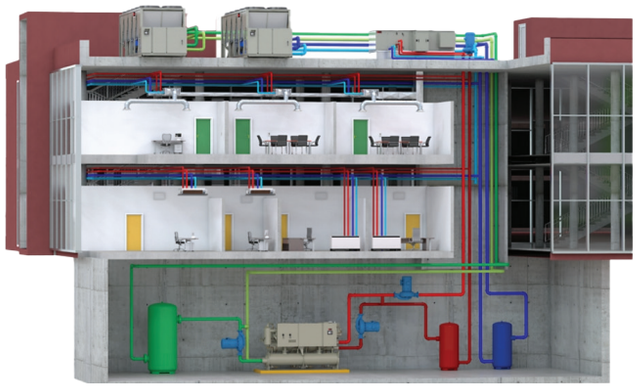
Separate heating/cooling EXVs provide precise refrigerant control and enhance system reliability

BRAZED PLATE HEAT EXCHANGER

Compact and proven design

WATERSIDE REVERSING VALVE *(Optional)*

Enables counter-current flow in both heating and cooling mode, allowing for additional heating capacity and improved efficiency in heating mode



Air-to-Water Cascade Heat Pump System

The ACX extracts heat from ambient air to provide a stable heat source for the Cascade System, delivering high-temperature supply water with temperatures up to 210°F—even operating reliably in conditions below 0°F. Additionally, it can be used for cooling. This versatile, high-temperature solution enables existing HVAC infrastructure and distribution to remain in place, helping to reduce design, installation, and CAPEX costs.

Discover the future of efficient heating and cooling. Contact Trane to learn more.

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