Hydronic Branch Conductor

For Comprehensive Chiller-Heater Systems

Energy-efficient, zoned comfort heating and cooling.

Through creative engineering, Trane is giving electric heat pump systems the flexibility and energy efficiency that buildings require.

Convert an existing building with 140° F (60°C) to 180°F (82°C) hot water into a more energy-efficient 105°F (40°C) hot water electrified heating supply, without replacing the existing branch piping.

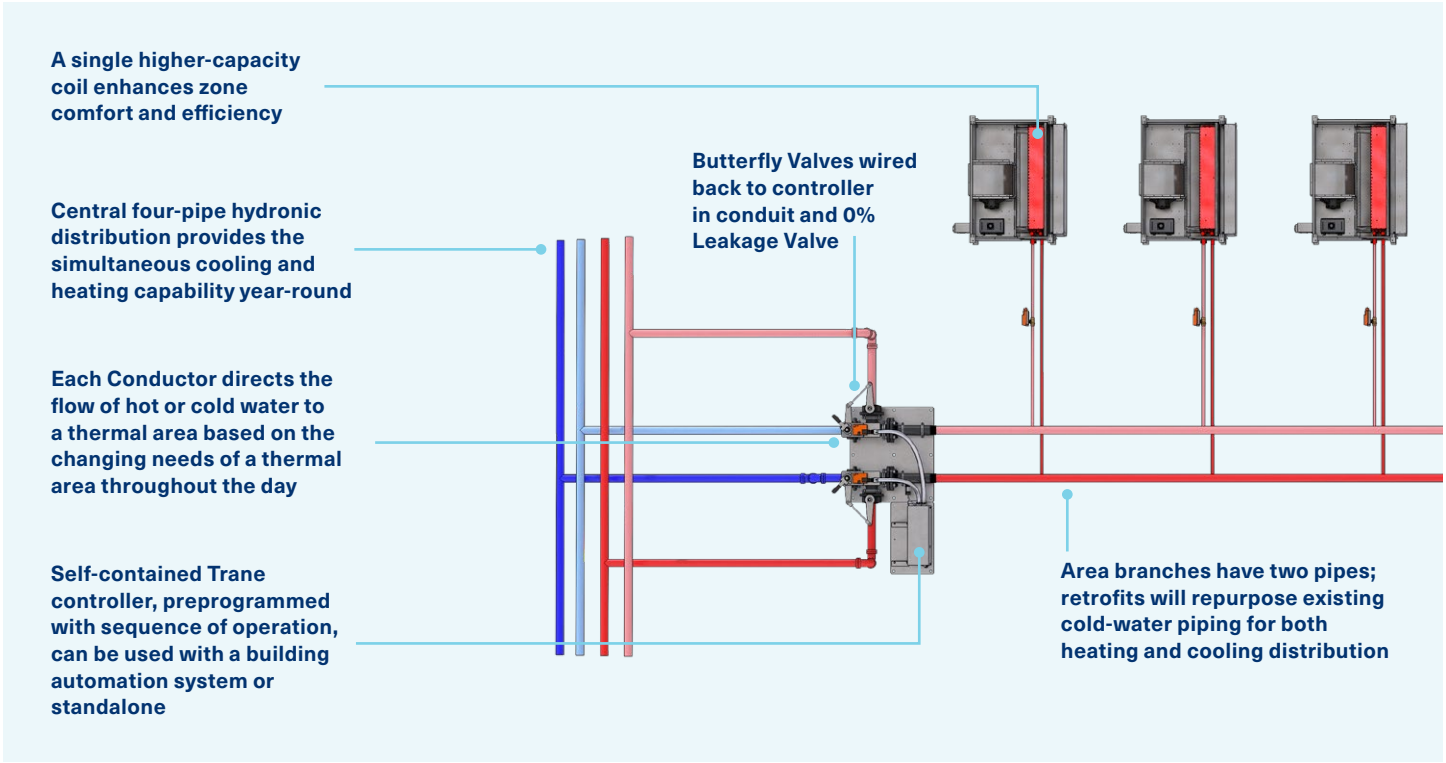
Too often, higher project costs and complexity, along with concerns about higher utility costs and unreliable comfort, become barriers to progress. Trane's Hydronic Branch Conductor helps mitigate these drawbacks. You'll have the confidence you need to introduce sustainable heat pump systems in new and existing buildings.

- Simplifies zone comfort by using the same branch piping and coil for cooling and heating.
- Adapts to changing heating and cooling loads, area by area, as needed during the same day.
- Enhances energy efficiency by heating spaces effectively with milder hot water temperatures.
- Causes less structural disruption — and reduces installation costs — by repurposing the distribution piping that is already in place.
- Use in retrofits (two- or four-pipe buildings) or new buildings with chilled water terminal units.

Paired with Trane's Comprehensive Chiller-Heater Systems, Trane's Hydronic Branch Conductor combines the advantages of four-pipe hydronic systems and two-pipe distribution, using the infrastructure that is already in place.

The Hydronic Branch Conductor

Our outstanding device enables the utilization of a four-pipe heat pump central plant, and a distribution system that efficiently delivers area heating or cooling using only two pipes and a single, dual-purpose coil. Unlike two-pipe changeover systems that switch from hot water to cold water seasonally for the entire building, the Hydronic Branch Conductor can adapt to changing heating and cooling loads, area by area, multiple times during the same day. The building's central four-pipe distribution provides the benefits of year-round heating and cooling. The area branches have two pipes, with the benefits of reduced piping and a single, dual-purpose coil. It adds up to a heat pump system that combines the best advantages of both four pipes and two.



All-Weather Heating and Cooling

The Hydronic Branch Conductor is beneficial anywhere buildings have significant heating and cooling loads and require zoned comfort management:

- **K-12 schools**
- **Commercial office buildings**
- **Hotels**
- **Higher education**
- **High-rise residential, and more**

Takes all-electric, sustainable HVAC to the next level.

Trane's Hydronic Branch Conductor enhances the sustainability of hydronic heat pump systems.

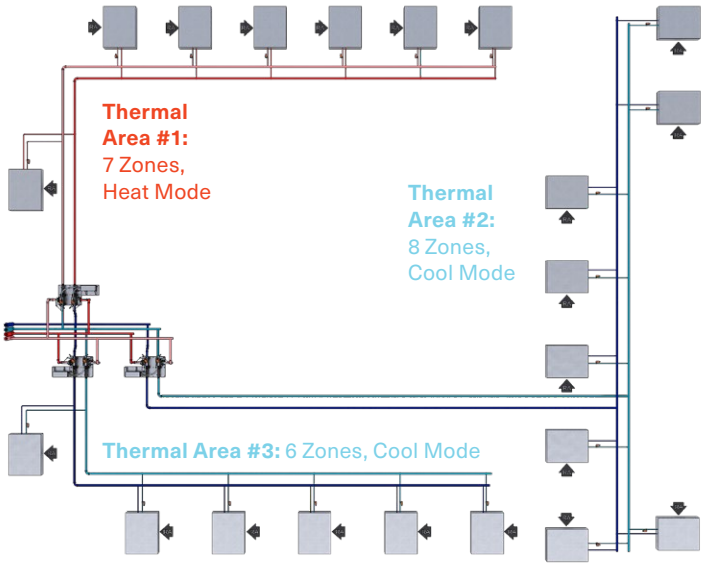
- Utilizing the main cooling coil for heating enables adequate heating at a milder hot water temperature: Heating with 105°F (40°C) water provides a 35% energy efficiency gain.
- The solution prevents system energy waste by stopping adjacent zones from fighting with each other over temperature setpoints. As an alternative to VRF, zoned hydronic systems have no CO_2e emissions associated with distribution refrigerant loss.
- Integrates easily with building automation systems for enhanced energy management.

Adds zone comfort benefits.

Comfort is always HVAC's primary mission. The Hydronic Branch Conductor efficiently introduces zone comfort benefits to hydronic heat pump systems.

Using a milder hot water supply temperature allows for better heating control by the zone terminal units. (No more cycling on/off with very hot air.) The Conductor enables steadier supply-air temperatures. Each zone maintains independent set point control. Grouping comfort zones into thermal areas reduces energy use by preventing zone fighting.

Trane terminal units with proven, factory-programmed, single-zone VAV control and dual-purpose coils provide even supply air temperature and precise air control. Conductors can be deployed on two-pipe branches in tandem with conventional four-pipe airside solutions for a comprehensive HVAC system design.



Minimizes disruption.

- ✓ Simplified installation meets tighter project timelines, such as school renovations during summer break.
- ✓ Repurposing existing piping avoids disrupting the zone-level finished spaces.

Helps reduce installation cost and complexity.

The Hydronic Branch Conductor makes hydronic heat pump systems even more cost effective.

- **Lower materials cost:** Allows for significant reduction in mechanical installed cost by utilizing two-pipe branch and zone piping.
  - Retrofits can use the existing cold-water piping for cooling **and** heating.
  - New construction sees materials and labor cost reductions with 50% fewer coils, valves, piping and joints.
- **Reduces onsite technician time:** Logic to send the appropriate hot or cold fluid is built into the conductor's controls.
- **Easy system integration:** Works with existing factory controls for fan coils, blower coils, unit ventilators, CoolSense® terminal sensible-cooling units and small catalog air handlers with dual-purpose coils. The Conductor integrates easily with building automation systems for enhanced energy management, too.
- **Fits into your building design:** Conductors can be installed in a central mechanical closet, eliminating the need for space in walls or ceilings and allowing them to be located outside the occupied areas. Using a single, dual-purpose coil instead of separate heating and cooling coils eliminates the need for larger casings on air handlers and air terminal units.
- **Optional wire-free convenience:** Air-Fi® Wireless simplifies installation and enhances connectivity.

Provides lifecycle cost savings.

Lower material costs coupled with lower installation and operating costs could mean that buildings gain ongoing savings.

Stack the benefits.

Paired with a hydronic system, the Hydronic Branch Conductor is a simple, flexible and efficient solution for sustainable building comfort in new and existing buildings.

To learn more, reach out to your Trane Account Manager.

Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit *trane.com or tranetechnologies.com.*

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