



The Chiltrix air to water heat pump system (also known as a hydronic heat pump or a reverse-cycle chiller) is an advanced heating and cooling system available in modules to create systems of various sizes. Each module delivers AHRI-rated cooling of 25,590 BTU and heating rated at 34,000 BTU. While most applications only require a single CX34, systems up to 78,000 BTU cooling (6.5 tons) and 102,000 BTU heating (8.5 tons) are easily achievable. Patent pending.

Following are some of the key features of the Chiltrix air to water heat pump.

	The Chiltrix CX34 has been awarded the ENERGY STAR 2019 Emerging Technology Award
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Record setting efficiency. Officially rated with an IPLV EER 22.21 the CX34 efficiency is 36% higher than its nearest competitor. The Chiltrix system is designed for maximum efficiency and currently holds a worlds-record efficiency rating.

Flexibility. The Chiltrix heat pump is compatible with various indoor heating and/or cooling options such as (ductless) room fan coils, ducted forced air systems, radiant heating (or cooling), and can produce domestic hot water. A combination of any or all of the above methods may be used within the same application.

Installation. The Chiltrix outdoor equipment (CX34) connects to the selected indoor equipment using flexible insulated PEX water lines. All of the refrigeration components – compressor, evaporator, condenser etc. are self-contained in the outdoor unit. Basic plumbing skills are needed. An electrician is needed to provide a 220v electrical connection. DIY options exist for the professional-level handyman homeowner.

Best of breed components. The Chiltrix uses the finest components available: DC Inverter scroll compressor from Mitsubishi, Panasonic DC fan, Wilo DC variable speed internal pump, valves from Emerson and Danfoss, heat exchangers from SWEP and MultiStack, just to name a few.

Variable capacity control. The CX34 exclusively uses variable speed/capacity components such that it can match itself to the load, and then continuously adjusts its capacity as the heating or cooling load changes, much like the way a cruise control works in an automobile. Controls are exceedingly simple and accurate – the CX34 monitors leaving and returning fluid (water or glycol mix) temperatures, along with the flow rate, to always know the BTU load and set its capacity to match, providing higher efficiency and avoiding on-off cycling.

Dynamic humidity control. The Chiltrix CX34 is available with Psychrologix dynamic humidity control, a patent-pending technology that allows the CX34 to optimize itself in real time in response to high, low, or variable humidity conditions. Officially rated at IPLV EER 22, efficiency can be as high as EER 35 when dynamic humidity control is active.



Dynamic integrated backup heat. An integrated and automatic backup heating system is available for customers in cold climates, for those days that a heat pump may not keep up with the full heating load. The patent-pending V18 dynamically variable heater uses the CX34 load-aware capacity controls to understand any heating shortfall and uses SSR technology to improve efficiency by dynamically providing only the exact amount of extra heat needed at the moment.

Dynamic Onboard Outdoor Reset Control. Allows the system to dynamically reset its operating temperature in heating mode based on outdoor temperature. A custom reset curve is user-defined and can be customized for the specific application.

Solar options. The Chiltrix CX34 system is compatible with solar in two ways, use either or both. It can be combined with solar thermal collectors to further increase heating and/or water heating savings. And of course, combining a CX34 with today's low cost PV (Photovoltaic Solar Panels) creates the ability to offset most or even all of the annual heating, cooling, and water heating energy requirements. A solar-direct add-on, backwards compatible to all CX34 units, is available for users who do not want, or cannot use, a net-metering arrangement with the power company.

Anti-corrosion. All CX34 units are built to last in a coastal environment and employ a special "SeaSpray" anti-corrosion technology to resist salts, acids, and harmful pollutants in the air.

System design. Get the design right and installation is easy. Chiltrix can help with application engineering and system design, and support you and your installer every step of the way.

Modeling. Want to see how Chiltrix compares to others, or get an idea of your annual energy costs for operating the Chiltrix system? Send us your Manual J report for a detailed analysis and energy usage projection. Don't have a manual J? Let us know, we can help.

Support. Chiltrix uses OTS (off the shelf) components (top shelf only) and is serviceable by any licensed HVAC contractor. Chiltrix also maintains a complete spare parts depot and has a staff of competent engineers and technical support personnel ready to assist with any issues.

Accessories. Depending on the application, BOS (balance of system) items that might be needed include a range of indoor ducted air handlers, ductless room fan coil units from ¼ ton to 1-ton, hot water tanks, booster pumps, etc. Every system is different. Once we have a design, we can ship a virtually complete system to you.

[Chiltrix Home Page](#)

[Documents Page](#) (Example designs, price list, manuals, specifications, etc.)

[Technology & Energy Savings](#)

[Psychrologix](#) (Dynamic Humidity Control Whitepaper)

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