

The Iceman Chiller is a circulating fluid temperature control system, which is capable of providing chilled water of a water/glycol mixture to a process at lower temperatures than available from conventional water supplies. The system is designed for normal operating temperatures of 20°F to 70°F (-7 to 21°C) for standard models and 40°F to 70°F (4.4°C to 21°C) for Scroll models (unless otherwise noted). The Iceman Chiller is a system consisting of a refrigeration loop and water or water/glycol loop.

The refrigerant loop circulates freon (R-22 or R-134a) through a variety of components, which causes the freon to change phase from a gas to a liquid and then back to a gas. This produces a chilling action on the chilled water loop. The compressor takes the freon from a low pressure, low temperature gas and compresses it to a high pressure, high temperature gas which flows to the condenser. The condenser changes the freon from a gas to a liquid under high pressure. This flows through a filter dryer (to remove any dirt, debris, and moisture) then to a moisture indicator (to indicate any moisture problem) and then to a thermal expansion valve. The thermal expansion valve regulates the flow of high pressure liquid freon into the evaporator, where the freon changes from a high-pressure liquid to a low-pressure gas. The freon absorbs heat from the water or water/glycol mixture in chilled fluid loop on the other side of the evaporator causing a phase change of the freon, from a liquid to a gas. The freon, as a low-pressure gas, returns to the compressor and the evaporator to dissipate it.

The circulating fluid is pumped through the evaporator via a supply pump. As mentioned above, the freon on the refrigerant loop absorbs heat from the water or water/glycol mixture and chills it. The water then flows to the process where it again picks up heat and returns to the evaporator to dissipate it.

Due to the use of high-pressure refrigerant and to ensure proper operation of the system, several safety devices are standard on the system. **ONLY A QUALIFIED REFRIGERATION TECHNICIAN SHOULD BE ALLOWED TO SERVICE THE SYSTEM.**