

# BV THERMAL SYSTEMS

## WATER COOLED INDOOR CHILLER

### CAPACITY

- 12.5kW @ 15°C leaving coolant temperature at 50 Hz. based on 20°C condenser water supply temperature
- 15 to 20°C operational temperature range

### COMPRESSOR

- 3.2 HP Premium efficiency Copeland Scroll type

### EVAPORATOR

- Aluminum plate style evaporator

### CONDENSER

- Stainless steel construction, no copper or brass wetted components
- All welded plate style
- Stainless steel factory mounted water regulating valve

### REFRIGERANT CIRCUIT

- R410A refrigerant
- Liquid line solenoid valve
- Filter/drier, sight glass/moisture indicator
- One (1) Electronic Modulating Hot Gas Bypass valve (infinite capacity modulation)
- Electronic Servo Refrigeration By-Pass Valve
- Low pressure safety (Manual reset on PLC panel)
- High pressure safety (Manual reset on PLC panel)
- Access ports (high/low sides) on service valves
- Aluminum plate style evaporator

### PUMP/WATER CIRCUIT

- 316 stainless steel, seal-less, magnetically coupled, turbine style pump, 38 LPM@40 PSI, 1HP motor and mechanical seal
- 14 gallon aluminum tank
- Aluminum sight glass
- Process fluid circuit aluminum tubing with aluminum Swagelok compression fittings, not copper or brass
- Aluminum plate style evaporator mounted outside the reservoir
- 3/4" Swagelok tube adaptor supply/return connections

### ELECTRICAL

- Standard voltage is 208-230V/3PH/50&60HZ (4 wire)
- FLA=18 @ 50hz and 16@60hz
- NEMA 1 enclosure
- ABB CM-PAS-31P 3 Phase Monitoring Relay, Part #1SVR740774R1300
- LED lights
- 115 Volt control circuit transformer
- Replaceable power cable in junction box with Phoenix-Contact feed through ring lug terminals (R83049042)
- EMO Relay Switch



38241 Willoughby Parkway  
Willoughby, OH 44094  
209-522-3701  
www.BVThermal.com

# BV THERMAL SYSTEMS

## WATER COOLED INDOOR CHILLER

### DIGITAL PLC CONTROL & DISPLAY

- Carel PLC control
- Temperature accuracy +/- 0.5 to 1.0°C
- 5.7" Color Graphics HMI
  - ~Temperature set point
  - ~Outlet temperature
  - ~Coolant level status
  - ~On/Off status
  - ~General Warning/Error
  - ~Ethernet communications
  - ~D-subminiature connector matching pin-outs with overtemp, flow, water level and leak sensor outputs. If some Ethernet or Profibus communication is selected there will still be 3 alarms (flow, temperature and water level) either transistor type (24VDC) or dry contact (NC). The normally closed state refers to the state the transistor or contact will be in when the interlock is OK. So a closed contact or a 24V signal would indicate the status is OK and if power is removed when the circuit should be open. The current intention is dry contact type output and we provide 24V from our safety module to ready the signal
  - ~Pump discharge pressures and flows
  - ~Liquid refrigerant temperature and sub-cooling
  - ~Evaporator inlet/outlet temperature
  - ~Compressor pump status
  - ~Selectable controlled parameters (supply/return temperature)

### INCLUDED FEATURES

- dBA <75
- Designed to operate in a Class 100 Clean Room
- Hour Meter
- Leak Pan built into the bottom of the cabinet with a leak detector. Size to contain 110% of chiller fluid volume
- Shut off or check valves on facilities and coolant inlet and outlet lines
- Flow Meter
- Back flow preventer kit with automatic drain function
  - ~Discharge line solenoid valve
  - ~Return line solenoid valve
    - Both valves open with the chiller pump is energized and close when the pump is de-energized
    - Valves may be opened for draining the interconnecting hose and system via a DRAIN button on the PLC screen



38241 Willoughby Parkway  
Willoughby, OH 44094  
209-522-3701  
www.BVThermal.com