



## **Siemens Linear Accelerator: -Mevatron M Class**

**Model: MPC-A 0300 - M274**

### **Cooling Capacity:**

Fluid Type:	Water
Nominal Fluid Flow Rate (GPM):	
Chilled Water Inlet Temp (°F):	78
Chilled Water Outlet Temp (°F):	68
Capacity of Chiller (BTU/H):	36,100*
Ambient (°F):	95
Location:	Indoors/Outdoors

### **System Design:**

A closed loop packaged medical chiller designed specifically to supply cool water for a Siemens Mevatron M Class machine. This packaged medical chiller contains its own refrigeration plant, circulation pump(s), closed storage reservoir and non-proprietary microprocessor control system for single source reliability and control of the cooling system.

The incorporation of a stainless steel storage tank allows for maximized energy efficiency as well as consistent water supply temperatures to the medical equipment during fluctuating load cycles. An oversized storage tank allows the chiller to create its own system volume, thus eliminating the risk of short cycling compressors.

Designed for optimal flexibility, a wide variety of options are available so that each Motivair Medical Chiller can be designed for the customer's specific system requirements.

### **EQUIPMENT SPECIFICATIONS:**

#### **Motivair Model MPC-A 0300 – M274 Air-Cooled Medical Chiller**

##### **Refrigeration System:**

- One (1) hermetically sealed, permanently lubricated scroll compressor with R-22 refrigerant
- Liquid line sight glass
- Refrigeration filter dryer
- Liquid line solenoid valve
  
- High efficiency, stainless steel, brazed plate evaporator



- Air cooled, copper tube, aluminum fin condenser coil
  - Condenser coil guard for protection against extreme elements
- One (1) low noise condenser fans with TEAO reverse stator motors and cast aluminum fan blades
  - Adjustable fan pressure switch for consistent head pressure control
  - Internal and external fan guard assemblies

### Hydraulic System:

- 1" NPT Inlet and Outlet water connections
- Qty one (1) stainless steel centrifugal circulation pump with TEFC 1 HP motor
  - 8 GPM at 43 PSI
- Discharge pump pressure gauge.
- Standard fail-safe flow switch included
- Full Flow Bypass assembly with hydraulic pressure relief valve and discharge water throttling valve.
- On-board, 316 stainless steel 15-gallon storage reservoir with:
  - Manual vent
  - Manual drain and fill ports
  - High density closed cell thermal insulation

### Electrical and Controls System:

- Standard 460/3/60 power
  - *Full Load Amps (FLA): 9.45 Amps*
  - *Minimum Circuit Ampacity (MCA): 10.93 Amps*
  - *Maximum Over-current Protection (MOP): 16.83 Amps*
- NEMA 3-R control cabinet with 24 volt control power
  - Locking disconnect switch
- Non proprietary, 24 volt, programmable microprocessor control system with:
  - LED display, FLASH memory & simple push button controls
  - 3 Levels of security: User/Technician/Factory
  - **Controls:**
    - Adjustable water temperature set point
    - Adjustable high and low water temperature threshold
    - Leaving or return water temperature display
    - Anti compressor short cycle system
    - Available Modbus connectivity (not included)
    - Remote start/stop relay – dry contact
    - Available fully functional remote control panel (not included)
    - °F or °C display capability
  - **Alarms:**
    - High and Low refrigeration pressure alarms
    - High and Low water temperature alarms
    - Low water flow alarm
    - Adjustable anti-freeze alarm
    - Over/Under voltage alarm
    - Sensor failure alarm
    - Microprocessor malfunction alarm
    - General alarm relay – dry contact

**Cabinet:**

- Standard outdoor weatherproof design
- Heavy gauge galvanized steel frame finished with a backed powder epoxy finish
- Heavy gauge removable aluminum access panels
- Designed for easy fork lift or crane rigging installation

**Weights:**

- Shipping Weight: 506 lbs
- Installed Weight: 644 lbs

**Sound Data:**

- 63 dBA – Measured 10' from the condenser, 3' off the ground in an open field

**Dimensions:**

- Length: 32" Width: 26" Height: 44"

**Certifications: ETL, MEA, CE**

**\*NOTE:** Manufacturer reserves the right to change specifications without notice. Consult factory or local distributor before final selection.

**Available Options:****City Water Bypass Panel:**

*Designed for integration with the standard chiller control system. The city water bypass panel allows city water to cool the medical equipment in the event of a chiller alarm thus guaranteeing seamless critical cooling under any circumstance. The city water bypass panel is completely automated and can be specified with temperature and pressure gauges, filtration packages and flow meter devices.*

**Non-CFC refrigerant:**

- Available R-407C or R-134A refrigerants. Note: Alternate refrigerants may effect cooling capacity

**Low Ambient Package:**

- Allows operation of refrigeration plant down to -20°F ambient. This system is recommended for any chiller operating in ambient temperatures below 40°F
- System includes VFD fan control system designed to maintain constant refrigeration head pressures.

**Remote Control Panel:**

- Fully functional remote control panel allows facility personnel to access and control all functions and alarms of the chiller from a remote location up to 1500' from chiller. Available in wall-mount or panel-mount versions.

**Modbus Communication Platform:**

- Modbus expansion card for standard Microprocessor allows connection from chiller to building management system.

**Remote Air-Cooled Condenser System:**

- The chiller is supplied with a freestanding remote air-cooled condenser, suitable for outside operation. The system includes one (1) or more fans with direct-drive, weatherproof motors. Head pressure control is achieved by way of fan staging, fan speed control or a combination of both. The condenser is supplied complete with NEMA 3R control panel, which shall contain fan contactors, fusing and/or variable frequency drive control with low ambient heater and thermostat.

**Centrifugal Fans:**

- Centrifugal fans may be selected for installation of an air-cooled chiller indoors. The fans are suitable for ducting warm condenser air out of the building. Consult factory for available external static pressure of fans.
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**High Ambient Option:**

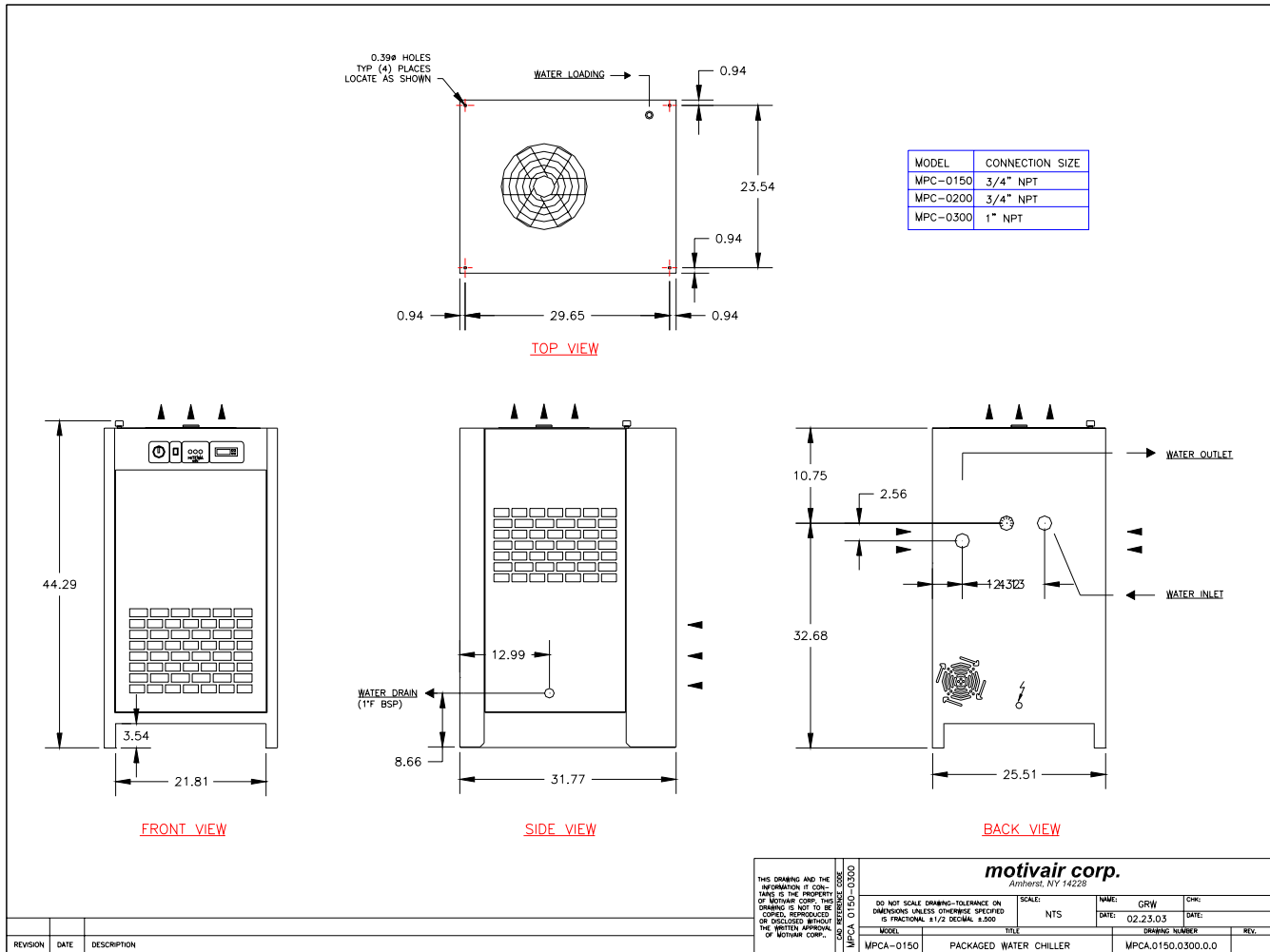
- High ambient packages include R-134A refrigerant as a standard. Additional upgrades include oversized condenser coils, larger condenser fans and a control cabinet cooling system. Ambient operation above 115°F.

**Water-Cooled Condenser:**

- All MPC machines can be supplied in a water-cooled configuration. These machines feature shell and tube condensers with adjustable water regulating valve

**Dimensional Drawing:**

Preliminary



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