

# **CRYOGENIC EXPERTS, INC.**

World Wide Web <http://www.cexi.com> E-mail [cexi@cexi.com](mailto:cexi@cexi.com)

Toll Free 1-800-FOR CEXI

Phone (805) 981-4500

Facsimile (805) 981-4501



## **CEXI ELECTRIC PRESSURE BUILD VAPORIZER**

**MPBU**

SERIAL NUMBER \_\_\_\_\_

1. Set heater on level concrete base and anchor holes provided in base angles.
2. Connect Process fluid lines to inlet and outlet connections. **CAUTION:** Be sure inlet is connected to inlet and outlet is connected to outlet. Improper connections will damage equipment and void warranty. Bubble check all connections at 1.25 times the rated working pressure of the system. Make sure that the liquid supply line slopes down to the inlet connection and the outlet or gas return line slopes up to the tank. Horizontal lines will retard flow to and from the unit. Down slopes from the unit to the tank in the return line should be avoided at all costs and uphill slopes from the tank to the vaporizer in the gas line should be avoided at all costs as well. Either can cause traps that will stop the fluid flow to the unit.
3. Connect electric power to line terminals of contactor or disconnect breaker. **CAUTION:** Be sure voltage supply agrees with nameplate rating on equipment. Connect the proper power supply to the top of the circuit breaker. If the unit is placed outdoors, we strongly recommend that the connections through the box be made through the side or the bottom of the box to keep water from entering the electrical cabinet.
4. Temperature controller is preset at the factory at the correct setting for normal operation. The temperature controller is set to maintain the casting at 50<sup>0</sup>F - this is the optimum temperature for the casting. The following is the recommended test procedure before starting flow of gas.
  - 4.1. Turn on disconnect switch to the ON position.
  - 4.2. Turn ON/OFF control switch to the ON position. The contactor may pull in or it may not - this depends on the casting temperature. If the casting is warm the contactor will not pull in. The contactor makes a loud clunk when it pulls in.
  - 4.3. The set point on the controller was set at 50<sup>0</sup>F at the factory. The set point is not adjustable.
  - 4.4. The flow of gas will start if the pressure in the tank drops below the set point of the pressure switch. The pressure switch monitors tank pressure and opens and closes the ball valve to allow liquid CO<sub>2</sub> to flow to the vaporizer. The pressure switch is set at 250 to open the valve and 265 to close the valve. The pressure switch is fully adjustable.

5. A high temperature safety switch (HTCO) is mounted on top of the heater casting to prevent overheating in case of temperature controller failure. The HTCO is connected in series with the temperature controller to energize the contactor. This switch has a setting of 200<sup>0</sup>F and will shut off power anytime casting temperature exceeds 200<sup>0</sup>F. These switches will reset automatically when casting cool to approximately 190<sup>0</sup>F. If the HTCO trips out, the contactor will drop out and the heaters will be shut off.

### **Specifications**

#### **Model MPBU-6**

Pressure Building Electric Vaporizer

Flow	170 lb. per hour
MAWP	500 psig
Fluid	Liquid CO <sub>2</sub>
Inlet Temp	0 <sup>0</sup> F
Outlet Temp	0 <sup>0</sup> F
Operating Press	300 psig
Pressure Drop	.5 to 1 psig at 300 psig and full rated flow
Fluid Passages	304 Stainless Steel
Power Required	208/240/480 vac, 3 phase, 50/60 htz
Kilowatts	6/9/12
Inlet Conn.	1/2" Female Pipe Thread
Outlet Conn.	3/4" Male Pipe Thread

The unit includes the following

1. NEMA 4 Electrical Enclosure
2. Aluminum casting assembly with heaters and tubing cast in place.
3. Control circuit transformer
4. Control circuit fuse
5. Control circuit on off switch
6. Casting High Temperature Safety Switch
7. Casting Temperature Controller
8. Power Contactor
9. Inlet Solenoid Valve to control the flow of CO<sub>2</sub> to the Unit.
10. Pressure Switch to control the solenoid valve based on pressure of the storage tank. Causes the valve to open at 250 psig and close at 265 psig. The pressure switch is fully adjustable.