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## V-10 AIR DRYER



## Installation and Operation Manual

**A. INSTALLATION CONCERNS.**

- A.1. Ozone is a very strong oxidant. Only ozone resistant materials can be used in contact with ozone gas.
- A.2. **A Balance Barometer, or WT-100 water trap, must be used with every installation**, together with the check valve inside the MAZZEI injector. Two or more check valves are not sufficient. If the first one leaks, it will not provide the necessary backpressure needed to close the next one.
- A.3. Air dryers release moisture into the ozone room. Tiny amounts of ozone are generated around the high voltage terminals. Both will accumulate over time and cause the equipment to fail. **Proper ventilation is required.**
- A.4. **The air for the ozone room must be free of dust, oil, acid and other volatile vapors.** All these elements shorten the life of high voltage circuits and the air-drying desiccant.
- A.5. The air dryer requires uninterrupted power. If line power is disrupted, and restored in about 2-20 minutes, there is about 20% chance that steam may enter the air supply.
- A.6. The equipment must be protected from splashing water, rain, sun, mist, and excessive humidity. A maximum dew point of 55 deg F is allowable for the V-10. See the following chart for information on this.

**55°F (12.8°C) Dewpoint  
Temperature vs. Relative Humidity**

Ambient Temp F	Ambient Temp C	Max. Allowable R.H.
55	12.8	99%
60	15.6	82%
65	18.3	70%
70	21.1	59%
75	23.9	49%
80	26.7	42%
85	29.4	35%
90	32.2	30%
95	35.0	26%

**B. INSTALLATION.**

- B.1. Mount the ozone generator and the air dryer side by side on a suitable wall.
- B.2. With soft PVC clear tube 1/4" I.D. connect the air dryer with the AIR IN terminal at the ozone generator.
- B.4. With the 1/4" ID Teflon tubing connect the lowest terminal at the Balance Barometer via stainless steel ball valve to the injector. Secure all connections with clamps and keep the valve open for now.
- B.5. With the same Teflon tubing connect the OZONE outlet at the ozone generator with the upper s.s. fitting at the Balance Barometer.
- B.6. Fill water to the Balance Barometer until the lower (open) section is almost full.
- B.7. Plug the ozone generator and the air dryer into a power outlet and keep the power switch on the ozone generator OFF for now.

**C. FIRST START UP.**

- C.1. Start the pump and observe the water level inside the Balance Barometer. If it rises to quickly and over the top, reduce the flow by the s. s. valve until the water level stabilizes about 10 cm (4") inches below the suction port.
- C.2. Check the flowmeter on the Ozone Generator. The flow should be ~4-6 LPM on the scale. If the flow is higher, reduce it with the s.s. valve.
- C.3. Keep the flow until the blue crystal indicator is blue. If the air dryer was in storage for a long time, it may take up to six hours to recover. It helps to power the air dryer overnight the day before installation.
- C.4. When the crystals are blue and flow no higher than 12 LPM, you can turn ON the ozone generator.

**D. OPERATION.**

The system works automatically. To stop the system, stop the pump. Do not interrupt power to the air dryer, otherwise the air drying cycle may be disrupted.

**E. MAINTENANCE.**

The Ozone Systems are designed to require minimal maintenance. THERE IS A DANGEROUS HIGH VOLTAGE INSIDE! DO NOT OPEN THE UNITS; THERE ARE NO SERVICEABLE PARTS INSIDE. DO NOT REPLACE FUSES; they do not fail without good reason. Only trained and qualified personnel are allowed to repair the equipment. The following list of procedures should be performed:

**DAILY:**

- E.1. The fans must be running and the airflow unobstructed. If the FUSE light is lit, call for service.
- E.2. **The moisture indicator should remain BLUE all time.** If the color changes, the new color will indicate:
- **PURPLE** - the dew point is above the allowable -40°F. If a **power failure** took place within last five hours, continue to operate as is. The crystals will turn blue again in the next five hours. If not, contact your nearest dealer.
  - **BLACK** - the blue crystals are permanently damaged by an **exposure to ozone.** Check and restore the room ventilation, replace the indicator.
  - **YELLOW** - the blue crystals are permanently damaged by an **exposure to oil vapors.** In this case also the air-drying desiccant in main cylinders is damaged and must be replaced.
  - **PINK/RED** - the blue crystals are permanently damaged by an **exposure to acid vapors** in the air. The source of the problem must be identified and removed. Examples: A solid fuel burner near by, overcharged battery,
- E.3. Check the flowmeter for proper airflow. A low flow may indicate a problem with the pump, injector, or integrity of the tubing.
- E.4. Check the water level inside the clear pipe of the Balance Barometer and refill if water is too low.
- E.5. Check for signs of excessive dust around the cooling air intakes. Check the room filters and replace the inserts before dust may obstruct the flow.

**ANNUALLY:**

Disconnect the ozone generator from power and check for excessive dust. Failures caused by dust are not covered under the warranty.

**IN TWO YEARS:**

The air dryer may need new desiccant. This depends on the quality of air, also whether the dryer operates full time under full flow requirements. Under reduced flow and dust free ambient air the desiccant may last 2 - 5 years. Oily vapors will decrease life span of the desiccant dramatically. The desiccant is not covered under warranty.

**LATER:**

The cooling fans are rated for up to 100,000 hours of continues duty under ideal conditions. Excessive dust may decrease the life span considerably.

## **Contact Information**

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