



## DUPLEX STACK MOUNTED "X" SERIES MEDICAL AIR PLANTS WITH DESICCANT AIR DRYERS 7.5 THROUGH 15 HP

The EMSE CORPORATION continuous duty Medical Air Plant is a stack mounted, completely packaged NFPA 99 and NEC compliant system featuring 100% oil-less air compressors, U.L. listed electrical control cabinet, an ASME receiver and duplex twin tower desiccant air dryers with purge control, duplex pre-filters and after-filters, duplex regulators, safety relief valves, dew point monitor, CO monitor and a test port

All components are piped and wired to single-point service connections. The only field connections are air intake, air discharge and power at the control panel.

All interconnecting piping and wiring is complete and operationally tested prior to shipment. Liquid tight conduit, fittings and junction boxes are provided for all control and power wiring.

### AIR COMPRESSORS

The medical air compressors are oil-less reciprocating, air-cooled. Connecting rod and bearings are sealed for life-time lubrication. **No oil is used in the operation of the compressors. The air is 100% oil-free.** Cooling is provided by a radial fan with a shroud.

Compressors are V-belt driven by 3 phase, 60 cycle, 1750 RPM, NEMA design B motors. Slide bases for belt tension adjustment and totally enclosed OSHA approved belt guards are provided.

Also included for each compressor are spring vibration isolators, air cooled aftercoolers, check valves, safety relief valves, intake and discharge flexible connectors, solenoid unloaders, high discharge temperature switches for each cylinder and isolation valves.

### RECEIVER

The system includes a corrosion resistant receiver of ASME construction rated for 200 PSI MWP service.

The tank is equipped with a pressure gauge, safety relief valve, 3 way by-pass, gauge glass and electronic tank drain with manual override.

### AIR TREATMENT

The dryer assembly consists of two identical banks of air treatment equipment, piped in parallel with valves to by-pass either bank without sacrificing air quality. Each desiccant air dryer is sized for 100% of the system NFPA peak calculated demand.



The dryer is designed to provide a maximum dew point below the frost point of 0°C (+32°F) per NFPA 99. Built-in purge control will minimize and adjust the amount of purge air to match the variable air flow. Each dryer is equipped with a 0.01 micron pre-filter with electronic drain and element change indicator, 0.5 micron after-filter and a pressure regulator.

Digital dew point and CO monitors with alarm set points at 39°F and 10 PPM are provided. A "demand check" for maintenance is included per current NFPA 99 for each instrument.

### CONTROL PANEL

NEMA 12 UL listed control panel features short circuit, single phase and thermal overload protection. Externally operable circuit breakers with a door interlock, control circuit transformers with fused primary and secondary coils, compressor HOA switches, magnetic starters with 3 leg overload protection and reset switches are standard. Also included are individual dual-mode 3-position selector switches for air dryers.

The Programmable Logic Controller provides automatic alternation and lead-lag control with the option to select either one of the pumps as a permanent lead for periods of pump maintenance. Human Machine Interface (HMI) display includes compressor run indication, accumulated run time and alarm conditions.

The following audible and visual local alarms are provided per NFPA 99: compressor thermal malfunction, "Backup in use", high dew point and high CO. The audible alarm can be acknowledged with the "Silence" button. All controls and alarms will function even if one of the compressors is shut down for maintenance or repairs.



### **CONTROL PANEL** (continued)

The panel includes dry contacts for connection to the master alarms for the following: system malfunction (including compressor thermal malfunction and "Backup in use"), high dew point level, high carbon monoxide level and individual monitor signals in case of power loss.

Field adjustable control switches are pre-set to operate the lead compressor between 80 PSIG and 100 PSIG. The lag compressor will automatically start at 75 PSIG if the lead compressor fails to operate.

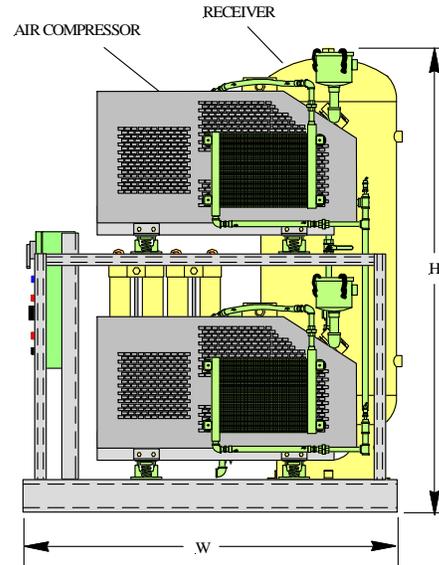
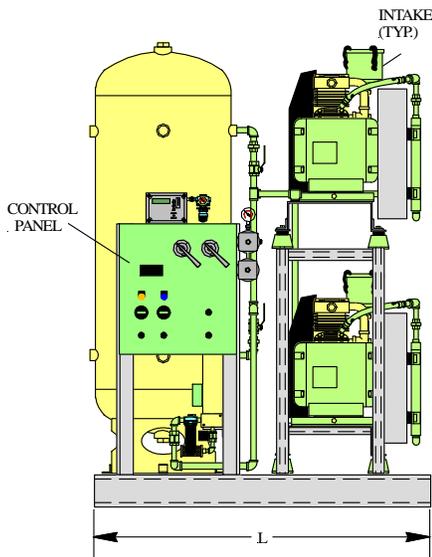
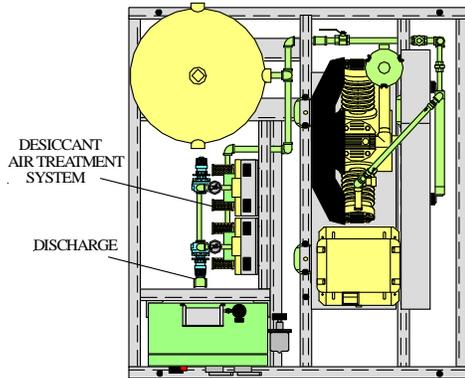
### **WARRANTY**

The Medical Air Plant is guaranteed by the manufacturer for a period of 12 months from the date of start-up or 18 months from the date of shipment (whichever comes first) against defects in design, materials, or construction. In addition, the compressors are guaranteed for 36 months from the date of shipment.

### **Option** (only checked options will be supplied)

- Touch screen interface with ethernet connectivity, embedded web page for remote monitoring and electronic notifications of alarms and warnings

# DUPLEX STACK MOUNTED "X" SERIES MEDICAL AIR PLANTS WITH DESICCANT AIR DRYERS 7.5 THROUGH 15 HP LAYOUT AND PERFORMANCE TABLE



System Model Number	Horsepower		Capacity SCFM (Each Pump)		Disch. Conn.	Tank (Gal.)	Dimensions, In.			Weight Lbs.
	Each	Total	50 PSIG	100 PSIG			L	W	H	
3DOX7.5PS120D	7.5	15	28.6	27.6	1/2"	120	60	66	84	2140
3DOX10PS120D	10	20	39.2	35.0	3/4"	120	60	66	84	2260
3DOX15PS120D	15	30	57.0	53.5	3/4"	120	60	66	84	2590

**Note:** Maximum ambient temperature: 100°F. For higher ambient temperatures consult factory.

### Power Requirements:

(Two) \_\_\_\_\_ HP Motors, 3 Phase 60 Hertz     208 v     230 v     460 v