



## TRIPLEX STACK MOUNTED "Q" SERIES MEDICAL AIR PLANTS WITH DESICCANT AIR DRYERS 10 THROUGH 20 HP

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

**After testing the system will be separated into 34" modules for ease of installation.**

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 control and power wiring.

### AIR COMPRESSORS

The medical air compressors are oil-less, reciprocating, air-cooled design. The compressors feature a cast iron crankcase, composite compression and rider rings, packed and sealed bearings, stainless steel reed valves, non-asbestos gaskets. **No oil is used in operation of the compressors. The discharge air is 100% oil-free.** Cooling is provided by a fan compressor pulley with air 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.

Each compressor is supplied with air cooled aftercoolers, check valves, safety relief valves, intake and discharge flexible connectors, solenoid unloaders, high discharge temperature shut-down switches on each cylinder and isolation valves.

### RECEIVER

The system includes an ASME, corrosion resistant receiver 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 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. Purge control adjusts and minimizes 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 with element change indicator 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

The system includes a UL listed control panel in a NEMA 12 enclosure. The panel includes the following for each pump: externally operable circuit breaker with a door interlock, control circuit transformer with fused primary and secondary coils, H-O-A switch, run light, hour meter and magnetic starter with 3 leg overload protection and reset switch.

A plug-in type programmable controller with removable terminals allows quick and easy replacement in the field. The system is designed to function even if the PLC fails. If one of the compressors is out of service, the system control shall omit that unit from the alternating cycle, automatically alternating between the remaining compressors. The system shall revert to normal automatic alternation when the condition is corrected.



The system is also supplied with forced time alternation in the event the compressor is unable to satisfy the demand in 30 minutes.

Local audible and visual alarms are provided per NFPA 99 for compressor thermal malfunction, "Backup in use", high dew point and high carbon monoxide. The alarms include indicating lights and a horn. The thermal malfunction shutdown is provided with manual reset. The audible alarm can be cancelled with the "Silence" button. The visual alarm remains energized until the problem is corrected. Each alarm function includes dry contacts for connection to the master alarm. All control and alarm functions remain energized while any compressor remains electrically on-line.

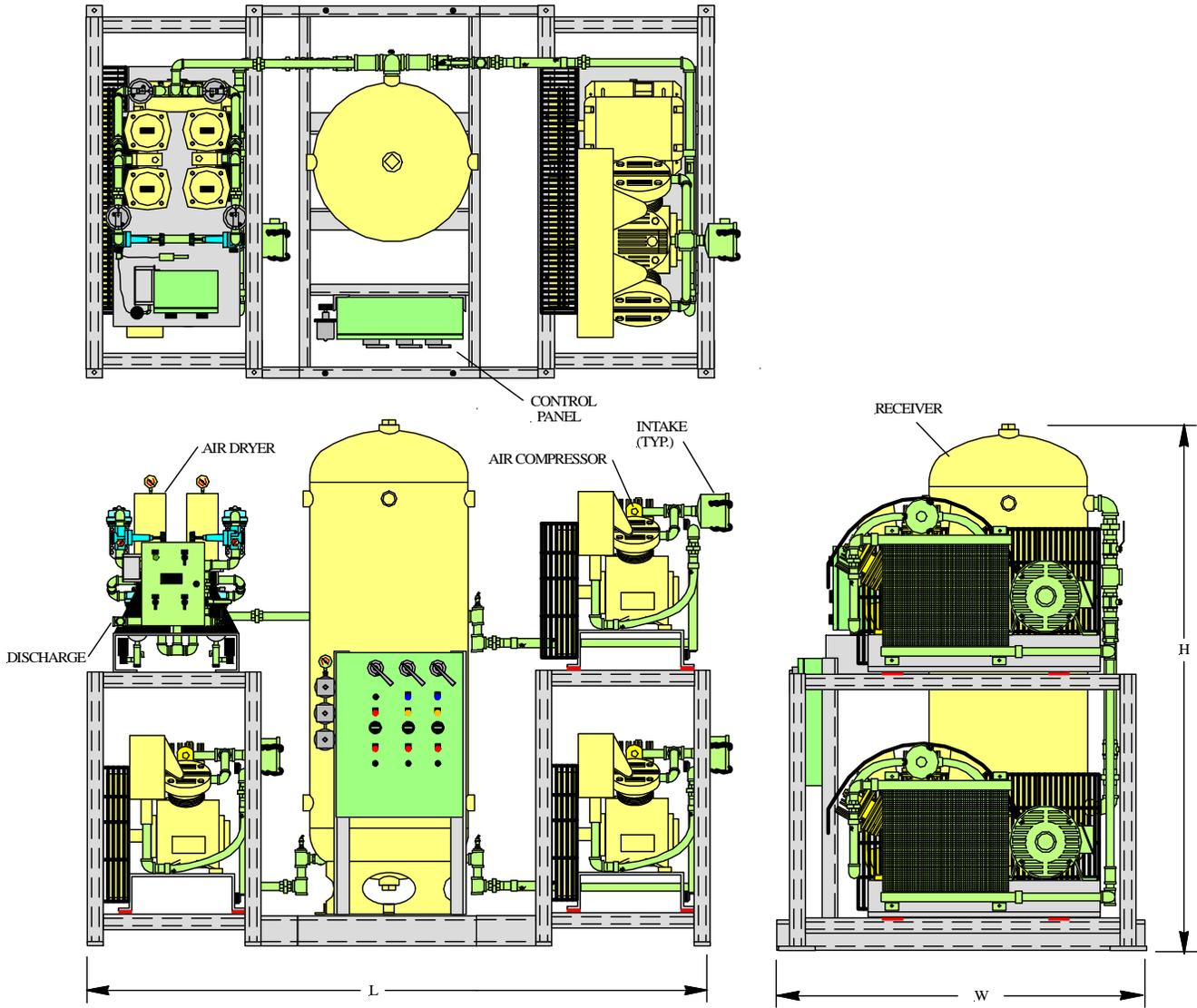
#### **WARRANTY**

The system is guaranteed by the manufacturer for 12 months from date of start-up or 18 months from date of shipment (whichever comes first) against defects in design, materials, or construction. 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

**TRIPLEX MODULAR STACK MOUNTED "Q" SERIES  
MEDICAL AIR PLANTS WITH DESICCANT AIR DRYERS  
10 THROUGH 20 HP  
LAYOUT AND PERFORMANCE TABLE**



| System<br>Model Number | Horsepower |       | Capacity SCFM (Each Pump) |          | Disch.<br>Conn. | Tank<br>(Gal.) | Dimensions, In. |    |    | Weight<br>Lbs. |
|------------------------|------------|-------|---------------------------|----------|-----------------|----------------|-----------------|----|----|----------------|
|                        | Each       | Total | 50 PSIG                   | 100 PSIG |                 |                | L               | W  | H  |                |
| 3TOQ10MS200D           | 10         | 30    | 40.8                      | 36.2     | 1"              | 200            | 118             | 70 | 80 | 4750           |
| 3TOQ15MS240D           | 15         | 45    | 58.3                      | 51.0     | 1"              | 240            | 118             | 70 | 98 | 5170           |
| 3TOQ20MS240D           | 20         | 60    | 75.0                      | 65.1     | 1"              | 240            | 118             | 70 | 98 | 5420           |

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

**Power Requirements:**

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