

## 1. RECIPROCATING COMPRESSOR

### A. DUPLEX TANK MOUNTED COMPRESSED AIR SYSTEMS

1. Furnish and install, where shown on the drawings a duplex tank mounted prefabricated medical compressed air system model\_\_\_\_\_ as manufactured by EMSE Corporation, Fairfield, NJ (1-800-935-EMSE).
2. The unit furnished shall be a standard catalog item of the supplier regularly engaged in the business of providing packaged systems for hospitals and laboratories and shall meet and exceed the requirements of NFPA 99.
3. The package shall include two oil-less air compressors and associated equipment, one ASME tank and one duplex control panel. The only field connections required will be system intake, exhaust and power connection at the control panel. All components shall be completely pre-piped and pre-wired to single-point service connections. All interconnecting piping and wiring shall be completed and operationally tested prior to shipment. Provide liquid tight conduit, fittings and junction boxes for all control and power wiring.
4. The medical air compressors shall be of the totally oil-less reciprocating air-cooled design. Connecting rod and bearings shall be packed with lifetime lubrication and sealed.
5. Each compressor shall be belt driven by a \_\_\_\_ HP, 3 phase, 60 cycle, \_\_\_\_\_ volt, 1750 RPM, ODP NEMA construction motor. Slide bases for convenient belt tension adjustment and totally enclosed OSHA approved belt guards shall be provided.
6. Each air compressor shall have a capacity of \_\_\_\_\_ SCFM at 100 PSIG.
7. The system shall include individual compressor inline intake filters, discharge check valves of bronze construction, safety relief valves, bronze intake and discharge flexible connectors, solenoid unloaders, isolation valves, air cooled after coolers for each compressor, high discharge temperature shut down switches on each cylinder, pressure control switches, as well as copper tubing with shut-off cock for gauge and switches.
8. The system shall include a \_\_\_\_\_ gallon pressure storage tank of ASME construction rated for 200 PSI MWP service. For compressors 7.5 HP and higher the tank shall be suspended between the heavy duty base supports, so it is isolated from the weight of the compressors. The tank shall be equipped with a pressure gauge, safety relief valve, 3 way by-pass, gauge glass and automatic electronic

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tank drain with manual override. The inside of the tank shall be coated for rust protection with a two component coating which provides a hard, durable lining.

9. Provide vibration mounting per NFPA 99.

10. Control System:

a. The system shall include a UL listed control panel in a NEMA 12 enclosure with the following accessories for each pump:

i. Externally operable circuit breaker with door interlock, control circuit transformer with fused primary and secondary coils, H-O-A switch, magnetic starter with 3 leg overload protection, hour meter and motor running light.

ii. Provide the panel with a multiple position selector switch for selection of normal operation (automatic alternation) or manual selection of lead and lag pumps if one of the pumps is taken out of service due to scheduled maintenance.

iii. Provide audible and visual local alarm (complete with indicating lights and individual sets of auxiliary contacts wired to the terminal strip for remote alarm indication) for the following: compressor temperature malfunction and reserve compressor in use.

iv. Provide manual reset for thermal malfunction shut-down. All control and alarm functions shall remain energized while any compressor in the system remains electrically on-line. The lag compressor shall be able to start automatically if the lead compressor fails to operate.

11. The compressed air system shall be guaranteed in writing 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.

12. The service of a factory trained representative shall be made available at the jobsite to check installation, start-up and instruct operating personnel in the proper operation and maintenance.