

## 1. DUPLEX TANK MOUNTED INSTRUMENT AIR SYSTEMS

- A. Furnish and install, where shown on the drawings a duplex tank mounted prefabricated instrument air system model \_\_\_\_\_ as manufactured by EMSE Corporation, Fairfield, NJ (1-800-935-EMSE)
- B. 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.
- C. The instrument air system shall be a completely packaged NFPA 99 and NEC compliant assembly featuring extreme duty pressure lubricated air compressors, U.L. listed control cabinet, an ASME receiver, dual desiccant air dryers with purge control, dual 0.5 micron pre-filters, dual charcoal absorbers, dual 0.01 micron after-filters, line pressure regulating valves, dew point monitor and all accessories required to meet and exceed the current code requirements. All components are piped and wired to single-point service connections. The only field connections are air discharge and power at the control panel. All interconnecting piping and wiring is complete and shall be operationally tested prior to shipment. Liquid tight conduit, fittings and junction boxes shall be provided for all control and power wiring.
- D. The high pressure instrument air compressors shall be pressure lubricated, reciprocating, air cooled design. Connecting rod and crankshaft bearings are pressure lubricated for extended life. Lubricant to all critical parts of the compressor is provided by an oil pump.
- E. 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.
- F. 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.
- G. Each air compressor shall have a capacity of \_\_\_\_\_ SCFM at 180 PSIG.
- H. The system shall include an ASME receiver rated for 250 PSI MWP service. The tank shall be suspended between heavy duty base supports. It is isolated from the weight of the compressors. The tank is equipped with a pressure gauge, safety relief valve, 3 way by-pass, gauge glass and automatic electronic tank drain with manual override.
- I. Also included are intake filters, check valves, safety relief valves, discharge flexible connectors, isolation valves, pressure switches and a shut-off valve for gauge and switches.

- J. The system shall include a UL listed control panel in a NEMA 12 enclosure. The panel includes the following standard accessories for each compressor: 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. The panel is equipped 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 compressors is taken out of service due to scheduled maintenance.
- K. Disconnect switches for the air dryers are included.
- L. Local audible and visual alarms are provided per NFPA 99 for "Backup in use" and high dew point. The alarms include indicating lights and a horn. The audible alarm can be cancelled with the "Silence" button. The visual alarm remains energized until the problem is corrected. Each alarm function includes contacts for connection to the master alarm. All control and alarm functions remain energized while any compressor remains on-line.
- M. Field adjustable pressure switches are pre-set to operate the lead compressor between 195 PSIG and 210 PSIG. The lag compressor will automatically start at 190 PSIG if the lead compressor fails to operate.
- N. The instrument 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.
- O. 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.