

## 1. LUBRICATED ROTARY VANE PUMPS

### A. SIMPLEX "SPACE SAVER" VERTICAL TANK MOUNTED VACUUM SYSTEMS

1. Furnish and install, where shown on the drawings a prefabricated simplex "Space Saver" vertical tank mounted lubricated rotary vane vacuum 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 one lubricated rotary vane vacuum pump and associated equipment, one vertical ASME tank and one simplex 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 vacuum pump shall be of the rotary vane air-cooled design with integral, fully recirculating oil supply with sight gauge to indicate oil level. The oil separation system shall be integral and shall consist of no less than four stages of internally installed oil and smoke eliminators. This system shall be capable of removing 99.9+ percent of all oil and smoke particles from the exhaust. Each pump shall include a built-in anti-suck-back valve mounted at the pump inlet; and each pump shall be equipped with three non-asbestos vanes, each having a minimum life of 30,000 to 40,000 hours.
5. The vacuum pump shall be driven by a \_\_\_\_ HP, 3 phase, 60 cycle, \_\_\_\_ volt, 1750 RPM, TEFC NEMA C-face, foot mounted motor. The pump shall have a capacity of \_\_\_\_ SCFM at 19 "HG.
6. The system shall include the following accessories: inlet check valve, vacuum control switch, oil temperature gauge, thermal malfunction switch and vacuum control switch. Provide flexible connectors on inlet and exhaust of the pump, exhaust tee with union, drip-leg with cock valve as well as copper tubing with shut-off cock for gauge and vacuum switch. The system shall include a \_\_\_\_\_ gallon vacuum storage tank of ASME construction. The tank shall be rated for full vacuum service and shall be equipped with a vacuum gauge and manual tank drain.
7. Provide vibration mounting per NFPA 99.

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8. The system shall include a UL listed control panel in a NEMA 12 enclosure with the following accessories:
  - a. 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, motor running light and minimum run timer to prevent short cycle operation.
  - b. 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 vacuum pump thermal malfunction.
  - c. Provide manual reset for thermal malfunction shut-down.
9. The vacuum 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 bare pumps shall be guaranteed for 36 months from the date of shipment.
10. 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.