

The EMSE CORPORATION stack mounted Medical Vacuum system is a completely packaged NFPA 99 and NEC compliant assembly featuring dry rotary vane vacuum pumps, U.L. listed control cabinet, an ASME receiver and the 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 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.

#### **VACUUM PUMPS**

The medical vacuum pumps are continuous duty, oil-less, rotary vane, air-cooled. Each vacuum pump is driven by a 3 phase, 60 cycle, TEFC NEMA C-face motor.

Each vacuum pump is supplied with an inlet check valve, inlet isolation valve, inlet filter screen, vacuum switch, inlet and discharge flexible connectors and a shut-off cock for gauge and vacuum switches.

#### **RECEIVER**

The system includes a vacuum receiver of ASME construction rated for 200 PSI MWP. The tank includes a vacuum gauge, valved by-pass and manual tank drain.

#### **CONTROL PANEL**

The system includes a UL listed control panel in a NEMA 12 enclosure with a 4.3" touch screen HMI. The panel includes the following standard accessories 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, magnetic starter with 3 leg overload protection and reset switch and minimum run timer to prevent short cycle operation.

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 pumps is out of service the system control shall omit that pump from the alternating cycle, automatically alternating between the remaining pumps.

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 pump is unable to satisfy the demand in 30 minutes.

Local "Backup in use" audible and visual alarms are provided per NFPA 99. The alarm includes an indicating light and 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 dry contacts for connection to the master alarm.

All control and alarm functions remain energized while any vacuum pump remains electrically on-line.

Field adjustable control switches are pre-set to operate the lead vacuum pump between 19" Hg and 23" Hg and the lag pump between 18" Hg and 22" Hg. The stand-by vacuum pump will automatically start at 16" Hg if one of the other vacuum pumps fails to operate.

The Medical Vacuum system and its component parts undergo a complete electric and pneumatic test prior to shipment.

## **CONTROL PANEL - OPTIONS**

### **LEVEL 1 TOUCH SCREEN HMI: (STANDARD WITH TRIPLEX)**

A 4.3" touch screen with screen displays inclusive of:

- Vacuum transducer with back-up vacuum switch
- Service alerts, runtime hour meters, system status, system vacuum level
- Visual/audible alarm indications with isolated contacts for all standard remote alarms
- Event log recording alarms and system activity
- BacNet Gateway: Optional

### **LEVEL 2 TOUCH SCREEN HMI**

A 5.7" touch screen with screen displays inclusive of:

- Vacuum transducer with back-up vacuum switch
- Service alerts, runtime hour meters, system status, system vacuum level
- Visual/audible alarm indications with isolated contacts for all standard remote alarms
- Event log recording alarms and system activity
- Ethernet connectivity and embedded web page for remote monitoring of alarms and system status
- Electronic notifications of alarms and warnings
- BacNet Gateway: Optional

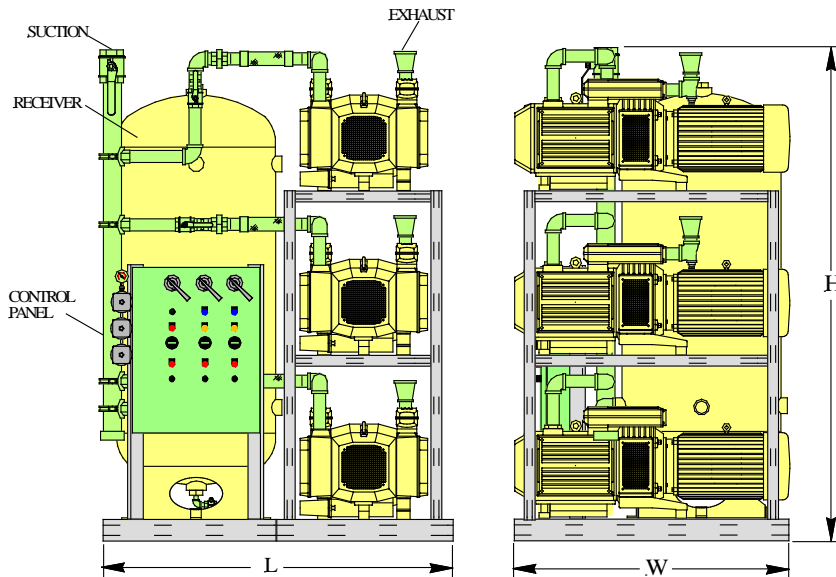
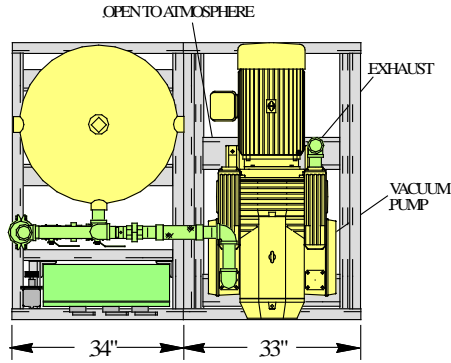
## **WARRANTY**

The Medical Vacuum system is guaranteed by the manufacturer for a period of 24 months from the date of start-up or 30 months from the date of shipment (whichever comes first) against defects in design, materials, or construction.

## **Optional System Accessories**

(Only checked options will be supplied)

- |  |   |
|--|---|
| <input type="checkbox"/> Level 1 Touch Screen HMI            | <input type="checkbox"/> Receiver gauge glass                   |
| <input type="checkbox"/> Level 2 Touch Screen HMI            | <input type="checkbox"/> Exhaust Muffler                        |
| <input type="checkbox"/> BacNet Gateway                      | <input type="checkbox"/> Bacteria Inlet Filter with Drain Flask |
| <input type="checkbox"/> Rust protection receiver lining     |   |
| <input type="checkbox"/> Galvanized receiver                 |   |
| <input type="checkbox"/> High discharge temperature switches |   |
| <input type="checkbox"/> External intake filters             |   |



System Model Number	Horsepower		Capacity (SCFM) 19" Hg		Suction Conn.	Exhaust Conn.	Tank (Gallon)	Dimensions (inches)			Weight Lbs.	System FLA		
	Each	Total	Pump	System				L	W	H		208V	230V	460V
	1TOB5HS200	5.6	11.2	21.0				42.0	3"	2"		200	67	66

**Notes:**

1. System capacity shown is based on one pump in reserve in accordance with NFPA99 requirements
2. To convert Free Air Capacity (SCFM) to Expanded Air Capacity (ACFM):  
At 19" Hg multiply SCFM by 2.74
3. Maximum ambient temperature: 100° F for standard systems, 90° F if equipped with variable speed drive
4. Allow 36 inches in front of control panel for maintenance and 24" clearance on all other sides
5. Dimensions are subject to change

**Power Requirements:**

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