

The EMSE CORPORATION tank mounted Medical Vacuum system is a completely packaged NFPA 99 and NEC compliant assembly featuring 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, rotary vane, air-cooled, equipped with non-asbestos vanes, having a minimum life of 40,000 hours. The pumps are provided with a full recirculated oil supply. The oil separation consists of four stages of oil and smoke eliminators, capable of removing 99.9+% of oil and smoke particles from the exhaust. 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, built-in anti-suck-back valve, inlet filter screen, oil sight gauge, oil drain valve, exhaust pressure gauge, 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 UL listed control panel is supplied in a NEMA 12 enclosure and includes short circuit, single phase and thermal overload protection. Externally operable circuit breakers with a door interlock, control circuit transformers with fused primary and secondary coils, H-O-A switches, magnetic starters with 3 leg overload protection and reset switches are standard.

The Programmable Logic Controller provides automatic alternation and lead-lag control with the option to select either one of the pumps as a permanent lead for periods of pump maintenance. It includes minimum run timers to prevent short cycle operation.

Human Machine Interface (HMI) display includes pump run indication, accumulated run time and alarm conditions.

Local "Backup in use" audible and visual alarms are provided per NFPA 99. The audible alarm can be acknowledged with the "Silence" button. The visual alarm will stay on until manually reset.

All controls and alarms will function even if one of the pumps is shut down for maintenance or repairs.

The panel includes a set of dry contacts for connection to the master alarm.

Field adjustable control switches are pre-set to operate the lead vacuum pump between 20" Hg and 25" Hg. The lag vacuum pump will automatically start at 18" Hg if the lead vacuum pump fails to operate.

## **CONTROL PANEL - OPTIONS**

### **LEVEL 1 TOUCH SCREEN HMI:**

A 4.3" touch screen with screen displays inclusive of:

- 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
- Trend graphs for inlet vacuum

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

A 5.7" touch screen with screen displays inclusive of:

- 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
- Trend graphs for inlet vacuum
- Ethernet connectivity and embedded web page for remote monitoring of alarms and system status
- Electronic notifications of alarms and warnings
- Optional BacNet Gateway

## **WARRANTY**

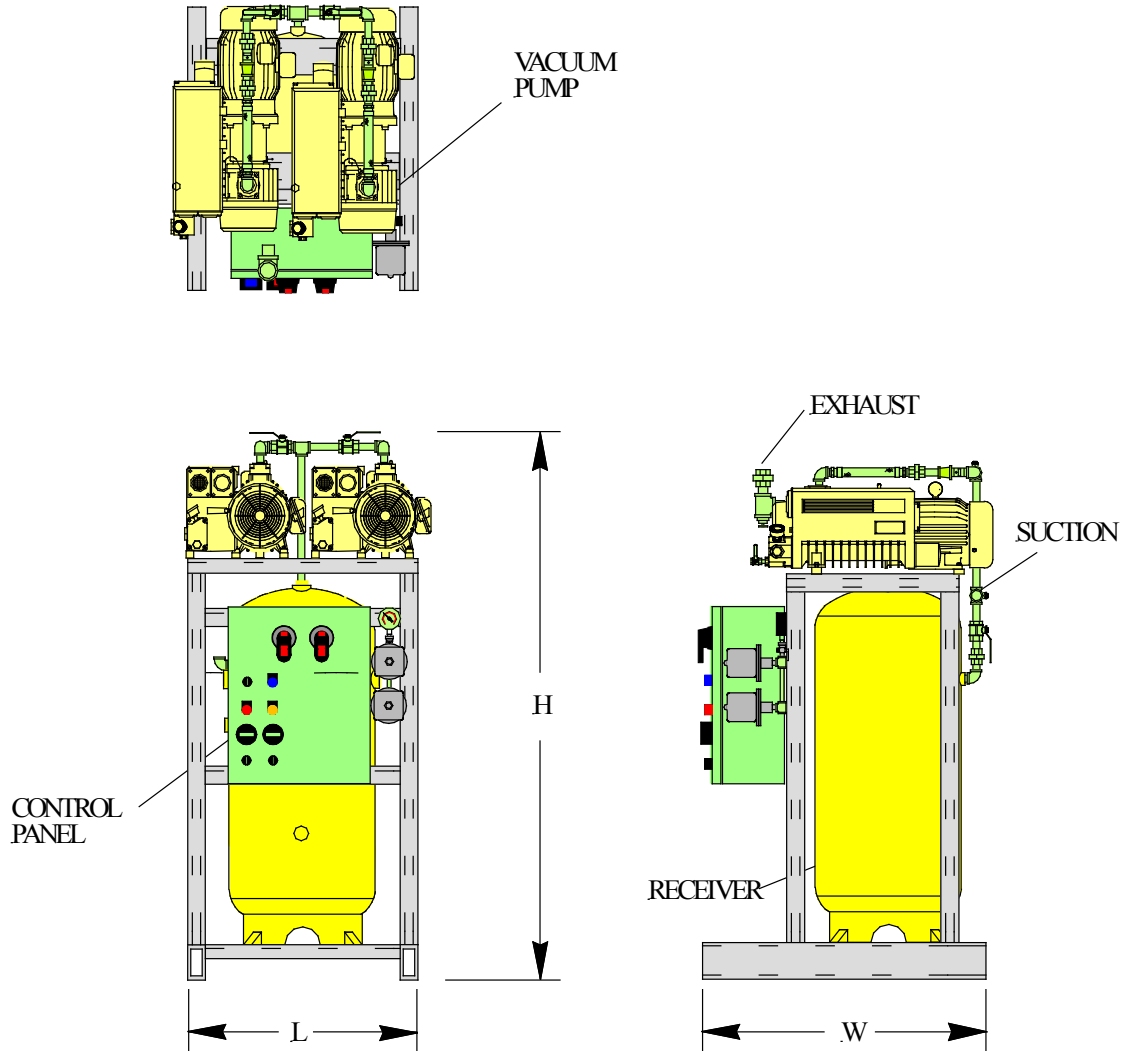
The Medical Vacuum system is guaranteed by the manufacturer for a period of 12 months from the date of start-up or 18 months from the date of shipment (whichever comes first) against defects in design, materials, or construction. In addition, the bare pumps are guaranteed for 36 months from the date of shipment.

## **Optional System Accessories**

(Only checked options will be supplied)

- Level 1 Touch Screen HMI
- Level 2 Touch Screen HMI
- BacNet Gateway
- Rust protection receiver lining
- Galvanized receiver
- High discharge temperature switches
- External intake filters
- Receiver gauge glass
- Exhaust Muffler

**DUPLEX "SPACE SAVER"  
LUBRICATED ROTARY VANE  
MEDICAL VACUUM SYSTEM  
1.5 THROUGH 2 HP**



System Model Number	Horsepower		Capacity SCFM (System) 19" Hg	Suction Conn.	Exhaust Conn.	Tank (Gallon)	Dimensions (inches)			Weight Lbs.	System FLA		
	Each	Total					L	W	H		208	230	460
1DRB1.5T30V	1.5	3.0	7.4	1-1/4"	1-1/4"	30	26	34	63	630	10.4	10.1	5.3
1DRB2T30V	2.0	4.0	11.0	1-1/4"	1-1/4"	30	26	34	63	660	12.6	12.1	6.3

**Notes:**

1. Capacity shown is based on one pump as a reserve pump, per NFPA 99 regulations
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. Dimensions are subject to change