



## DUPLEX TANK MOUNTED LIQUID RING MEDICAL VACUUM SYSTEMS 1.5 THROUGH 15 HP

The EMSE CORPORATION "ECONOMIZER V" continuous duty tank mounted medical vacuum system is a completely packaged NFPA 99 and NEC compliant assembly featuring liquid ring 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, seal water supply, drain 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.

**The system includes field selectable and adjustable partial water recirculation up to 95% without the use of heat exchangers and chilled water.**

The medical vacuum pumps are positive displacement, non-pulsating, liquid ring design capable of passing fluids and soft solids directly to waste without damage. The standard construction is cast iron or stainless steel with bronze impeller, stainless steel shaft and mechanical seals. Each vacuum pump is driven by a 3 phase, 60 cycle, ODP NEMA design B motor.

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

Each vacuum pump is supplied with an inlet check valve, inlet isolation valve, discharge separator-silencer, vacuum switch, a seal water line consisting of an isolation valve, Y-strainer, solenoid valve with manual priming valve, back-flow preventer and flow control valve, seal line, inlet and discharge flexible connectors and a shut-off cock for gauge and vacuum switches.

The system includes a UL labeled control panel in a NEMA 12 enclosure. The panel includes the following 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. 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 the pump is taken out of service for scheduled maintenance. All control circuit components are plug-in type for quick and easy replacement without re-wiring or a system shut-down.

Local "Reserve 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 in-



cludes 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 18" Hg and 23" Hg. The lag vacuum pump will automatically start at 17" Hg if the lead vacuum pump fails to operate.

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

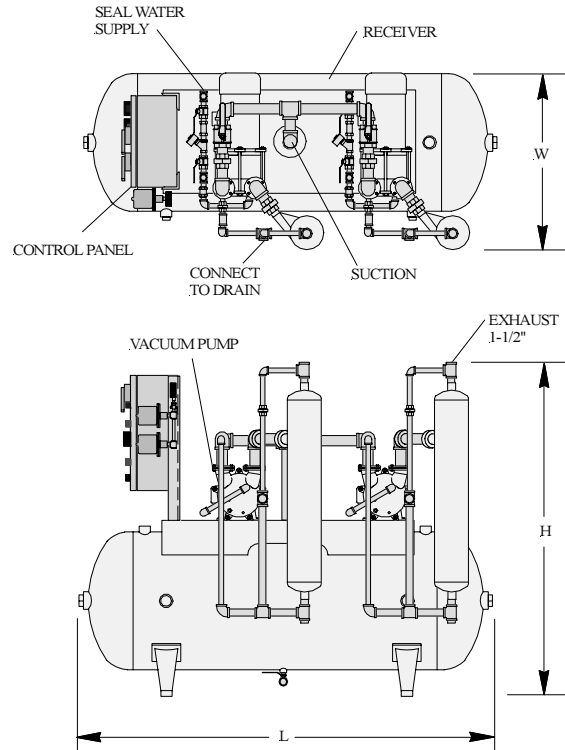
The Medical Vacuum system is guaranteed by the manufacturer for a period of 18 months from the date of start-up or 24 months from the date of shipment (whichever comes first) against defects in design, materials, or construction.

### Optional System Accessories

(only checked options will be supplied)

- Rust protection receiver lining
- Galvanized receiver
- Seal water shock arresters
- Vacuum relief valve
- Receiver gauge glass

# **DUPLEX TANK MOUNTED LIQUID RING MEDICAL VACUUM SYSTEMS 1.5 THROUGH 15 HP LAYOUT AND PERFORMANCE TABLE**



System Model Number	Horsepower		SCFM (Each Pump)		Water GPM	Suct. Conn.	Exh. Conn.	Tank (Gal.)	Dimensions, In.			Weight Lbs.
	Each	Total	19" Hg	25" Hg					L	W	H	
1DWSH1.5T120V	1.5	3	6.2	2.6	0.2	1.5"	1.5"	120	69	35	45	830
1DWSH3T120V	3	6	13.5	5.4	0.2	1.5"	1.5"	120	69	35	45	850
1DWSC4T120V	4	8	21.5	8.9	0.2	1.5"	1.5"	120	69	35	45	895
1DWSH5T120V	5	10	27.7	12.0	0.3	1.5"	1.5"	120	69	35	45	990
1DWSH7.5T200V	7.5	15	42.7	19.2	0.3	1.5"	1.5"	200	72	45	68	1740
1DWSH10T200V	10	20	56.2	25.5	0.5	2"	2"	200	72	60	70	2120
1DWSC15T240V	15	30	80.3	33.6	0.5	3"	2.5"	240	84	60	72	2880

**Notes:** 1. To convert Free Air Capacity (SCFM) to Expanded Air Capacity (ACFM):  
 at 19" Hg multiply SCFM by 2.74  
 at 25" Hg multiply SCFM by 6.1  
 2. Maximum ambient temperature: 95°F. For higher ambient temperatures consult factory.

### Power Requirements:

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