

GENERAL

The Powerex medical vacuum system is designed to create a suction system to remove unwanted fluids or gases from hospital/ laboratory working areas. The medical vacuum system package is compliant with the NFPA 99 requirements for Risk Category 1 systems. Each system is completely tested before shipment and includes:

- Multiple vacuum pumps and associated equipment
- AMSE air receiver
- Medical control panel

Each pump is factory piped to a common intake manifold. Vibration isolation pads are included with the system.

OIL-LESS ROTARY VANE VACUUM PUMP

Each pump shall be a dry rotary vane type vacuum pump, and shall be direct-driven through a shaft coupling by a C-face, TEFC electric motor.

- Each vacuum pump shall be dry-running, featuring self-lubricating carbon/graphite vanes and shall not require any sealing fluid in the pumping chamber.
- The patented vane material shall be constructed of a carbon compound with a plastic polymer binder (as opposed to a salt binder). The vane material shall not retain moisture from internal pump condensation like other designs thus extending the vane life. This polymer construction also makes the vanes softer and less susceptible to cracking.
- Each vacuum pump shall include an internal relief valve, a check valve, inlet and discharge flex connectors, a 5 micron inlet filter and a pump isolation valve.

MOTOR

The motor is continuous duty, C-face, TEFC, suitable for 208-230, or 460V, 3 phase, 60 hertz electrical operation.

AIR RECEIVER

The system shall include an ASME rated air receiver. The tank shall be equipped with a vacuum gauge, a sight gauge, by-pass valves, and a manual drain.

STANDARD HMI CONTROL PANEL

The control system provides automatic lead/lag sequencing and automatic alternation of all pumps in order to equalize the amount of usage among the available vacuum pumps. The HMI (Human Machine Interface) control system shall include:

- PLC controller and a color touch screen HMI (Human Machine Interface) panel which displays the operating status of the unit.
- UL508A listed control panel in a NEMA 12 enclosure. The panel door will include: the HMI touch screen, an audible and visual alarms with an acknowledge button, and an HOA switch for each pump
- Magnetic starters
- Vacuum transducer for process control
- Single point power connection
- Redundant 120Vac control transformers with fused primary and secondary protection
- System overload trip, high temperature conditions or maintenance intervals for the pump will result in visual and audible alarms.

OPTIONAL PBMI CONTROL PANEL

The PBMI control panel shall include all features of the standard HMI control panel with the addition of the gateway server card. The PBMI control system shall include:

- Building automation communication gateway with BacNet[®] protocol and Web server features. Web server s features include email notifications in case the system is in alarm or has achieved one its maintenance intervals and requires service.
- Ethernet port for connection to BacNet[®] server or direct connection to facility Ethernet for viewing of system operations and status via device IP-address

OPTIONAL BASIC CONTROL PANEL

The control system provides automatic lead/lag sequencing and automatic alternation of all compressors in order to equalize the amount of usage among the available vacuum pumps. The Basic control system shall include:

- UL508A listed control panel in a NEMA 12 enclosure with the following accessories for each pump: Externally operable disconnect, magnetic starter with 3-leg overload protection, Hand/Off/Auto lighted selector switch, minimum run timer to prevent short cycling of the pump, and hour meter. Standard features shall also include:
- Main power on light, timed lead/lag pump alternation, a reserve pump in-use alarm with visual and audible indications, and redundant control circuit transformers with fused primary and secondary protection.
- Dry contacts on a labeled terminal strip for remote alarm monitoring and an acknowledge pushbutton



**Oil-less Dry Vane Medical
Vacuum System**
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for horn silencing.

- Control logic to start the lag pump automatically if the lead vacuum pump fails to operate.
- A high discharge air temperature shutdown alarm with visual and audible indicators and dry contacts

AVAILABLE OPTIONS

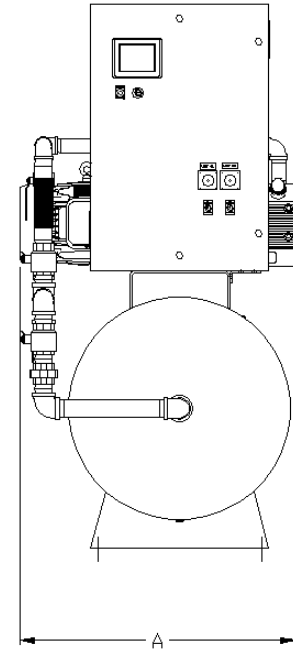
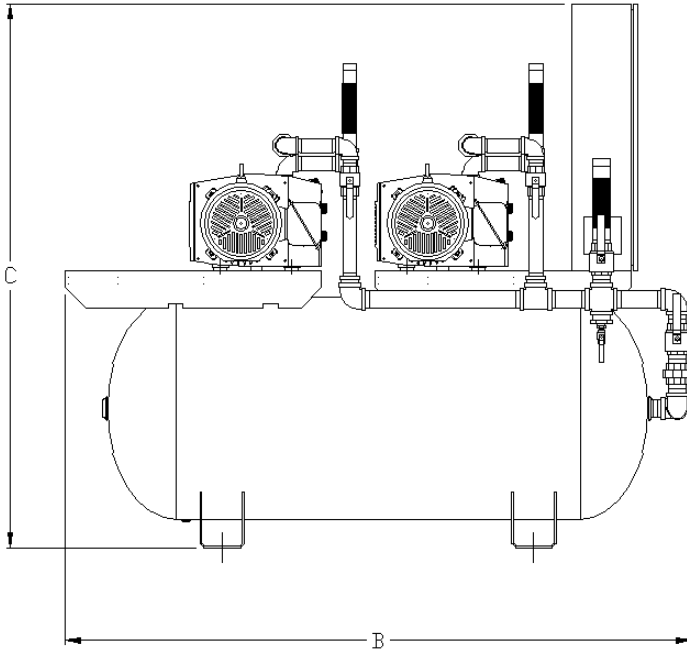
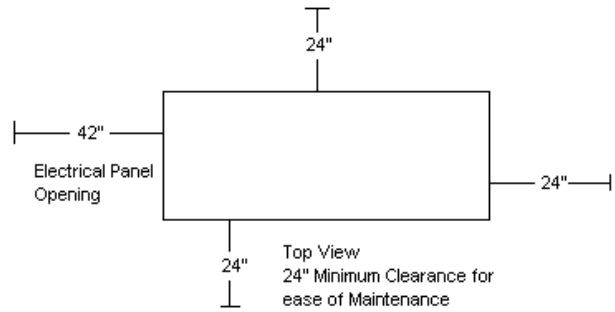
- Internal tank lining for corrosion resistance.



Medical Vacuum Package with HMI/PBMI

Rev. 4/26/13

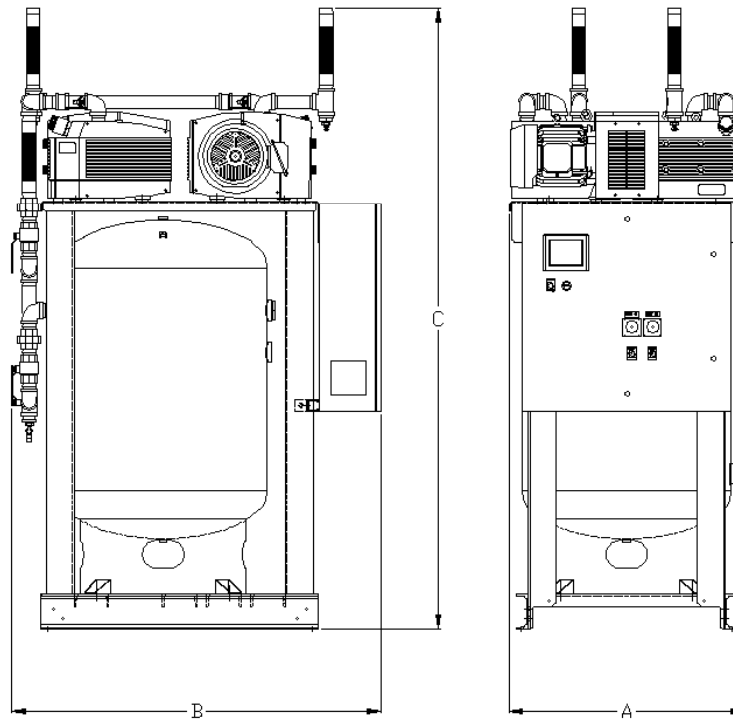
DIMENSIONS					
MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VOTD0755	38"	85"	74"	2"	1-1/2"
VOTD1006	48"	90"	75"	2"	2"



Medical Vacuum Package with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg	NFPA System Capacity ¹	TANK SIZE (Gal.)	BTU/HR ²	dB(A) ⁴ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VOTD0755	7.5	30.4	30.4	200H	19,088	79	45	43.2	22.6	1,700
VOTD1006	10	56.0	56.0	200H	21,887	79	62	60.8	32.6	2,350

- Notes:
- 1- System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve pump(s) on standby
 - 3 - dB(A) is shown with one pump in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty

DIMENSIONS					
MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VVOTD0153	34"	53"	80"	1"	1"
VVOTD0203	34"	53"	80"	1"	1"
VVOTD0303	36"	53"	89"	1"	1"
VVOTD0404	36"	53"	89"	1"	1"
VVOTD0504	37"	54"	90"	1-1/2"	1-1/2"



Medical Vacuum Package with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg each	NFPA System Capacity ¹	TANK SIZE (Gal.)	BTU/HR ²	dB(A) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VVOTD0153	1.5	5.3	5.3	80V	3,818	67	10.6	11	6.8	870
VVOTD0203	2	8.2	8.2	80V	5,090	72	15	14.2	10	930
VVOTD0303	3	12.5	12.5	80V	7,635	73	20	18.8	10.4	1,100
VVOTD0404	5	15.4	15.4	120V	12,725	75	30.4	28	15	1,200
VVOTD0504	5	22.1	22.1	120V	12,725	77	30.4	28	15	1,400

- Notes:
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