

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**
Rev. 10/3/13

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

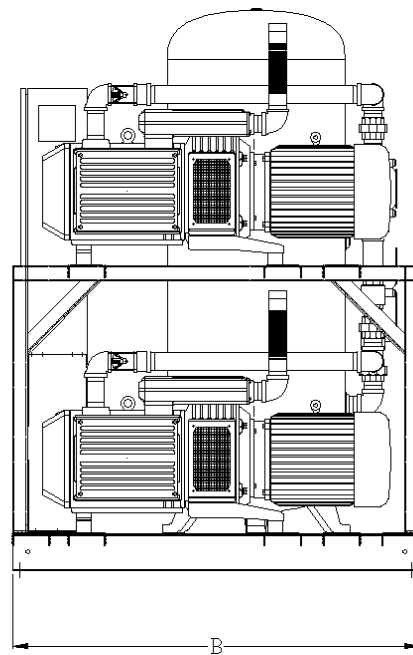
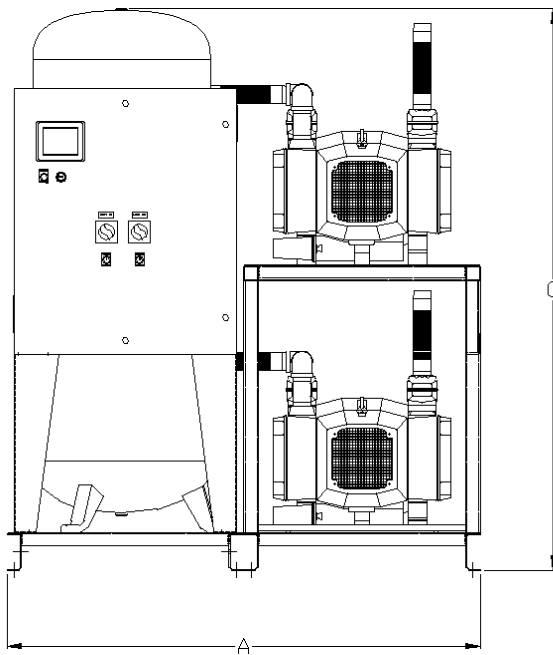
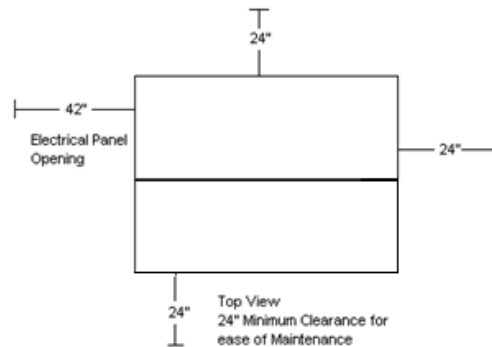
- ☐ Internal tank lining for corrosion resistance.



Oil-Less Medical Vacuum System with HMI/PBMI

Rev. 04/26/13

MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VOPD0403	64"	55"	60"	1"	1"
VOPD0503	64"	55"	61"	1-1/2"	1-1/2"
VOPD0754	64"	55"	76"	2"	1-1/2"
VOPD1004	64"	55"	76"	2"	2"



Oil-less Medical Vacuum with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg	NFPA System Capacity ¹	TANK SIZE (Gal.)	BTU/HR ²	dB(A) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VOPD0403	5	15.4	15.4	80	12,725	75	30.4	28	15	1,800
VOPD0503	5	22.1	22.1	80	12,725	77	30.4	28	15	1,850
VOPD0754	7.5	30.4	30.4	120	19,088	79	45	43.2	22.6	2,000
VOPD1004	10	56.0	56.0	120	21,887	79	62	60.8	32.6	2,300

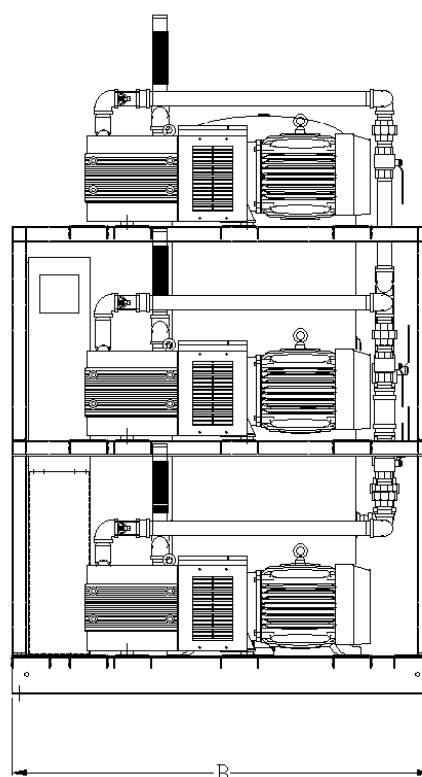
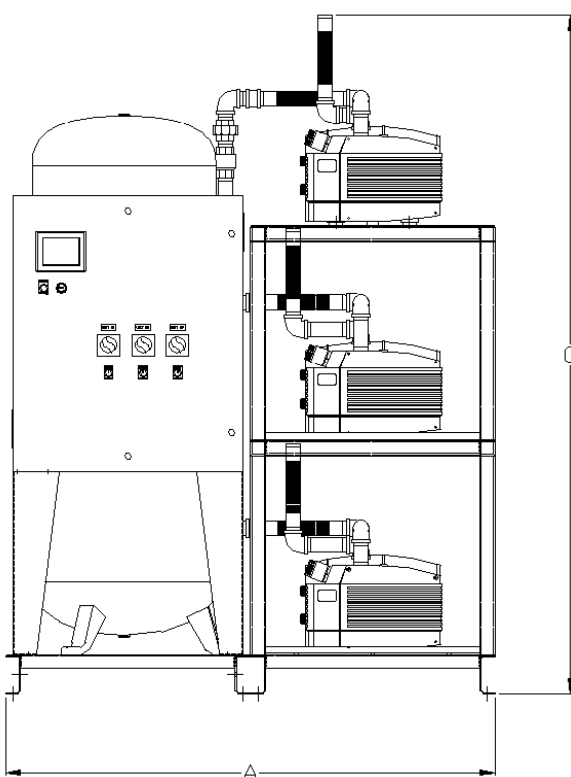
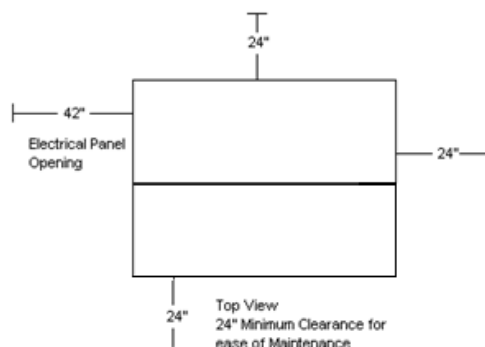
- Notes:
- 1- System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve compressor(s) on standby
 - 3 - dB(A) is shown with one compressor in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty



Oil-Less Medical Vacuum System with HMI/PBMI

Rev. 7/25/12

MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VOPT0503	64"	55"	89"	1-1/2"	1-1/2"
VOPT0754	64"	55"	89"	2"	1-1/2"



Oilless Medical Vacuum System with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg	NFPA System Capacity ¹	TANK SIZE (Gal.)	BTU/HR ²	dB(A) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VOPT0503	5	22.1	44.2	80	25,450	80	44.6	41	21.5	1,850
VOPT0754	7.5	30.4	60.8	120	38,175	82	66.5	63.8	32.9	2,450

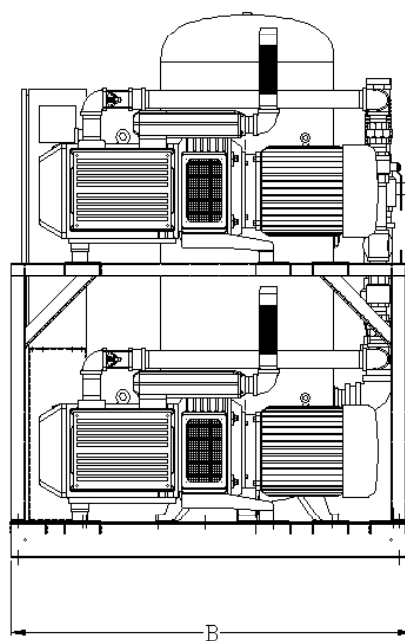
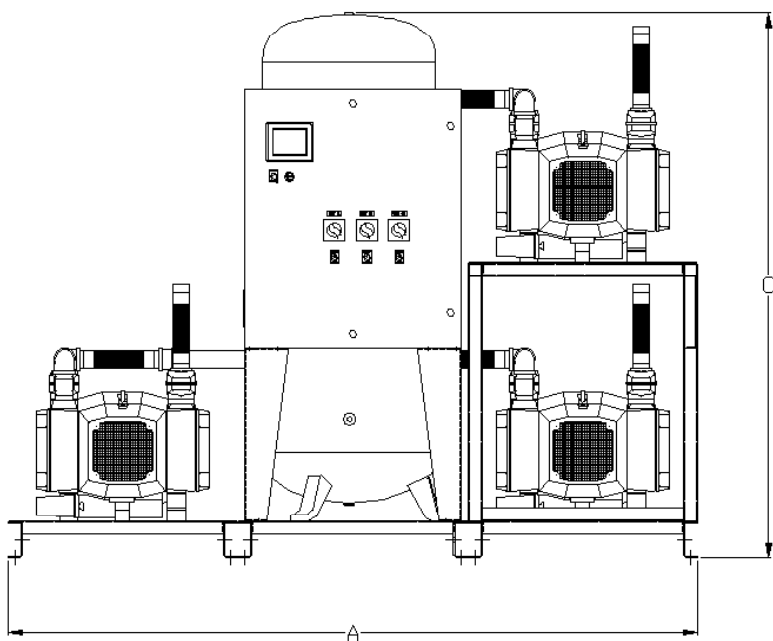
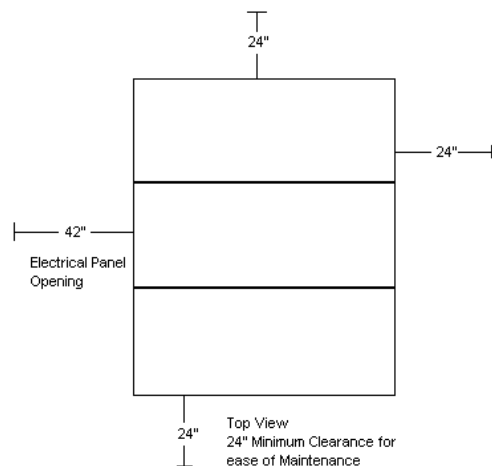
- Notes:
- 1- System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve pump(s) on standby
 - 3 - dB(A) is shown with one pump in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty



Oil-Less Medical Vacuum System with HMI/PBMI

Rev. 4/26/13

MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VOPT1004	96"	55"	75"	3"	2"



Oilless Medical Vacuum System with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg	NFPA System Capacity ¹	TANK SIZE (Gal.)	BTU/HR ²	dB(A) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VOPT1004	10	56.0	112.0	120	43,774	82	92	90.2	47.9	3,000

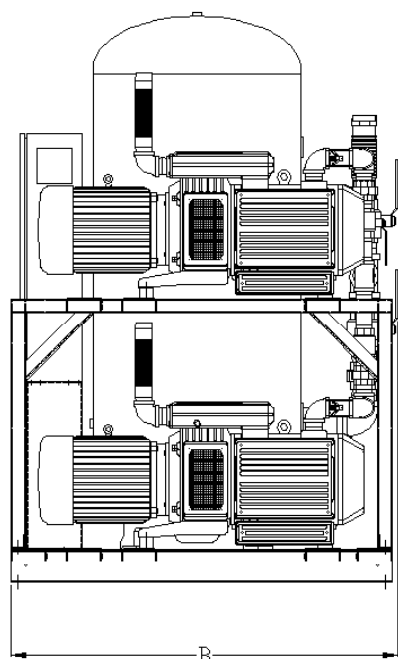
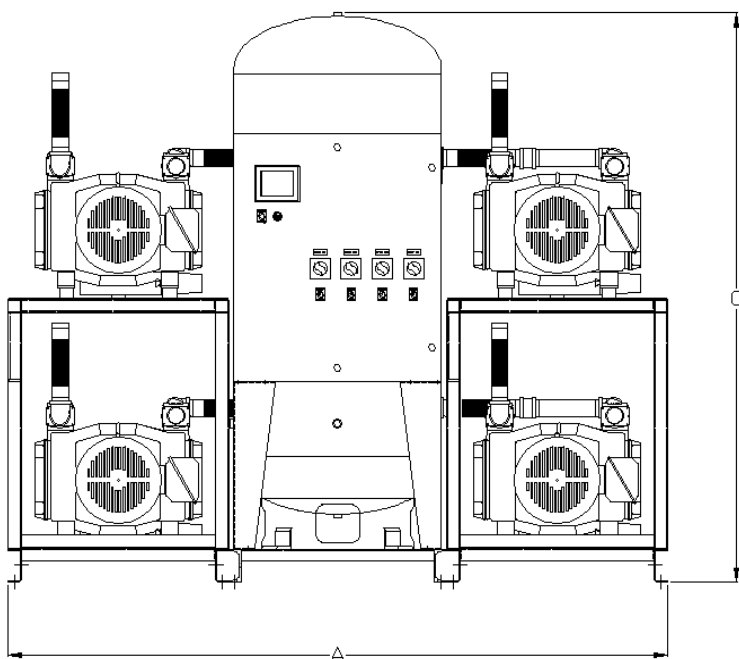
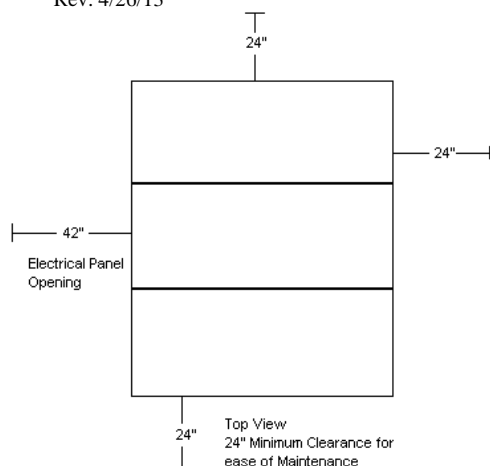
- Notes:
- 1- System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve pump(s) on standby
 - 3 - dB(A) is shown with one pump in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty



Oil-Less Medical Vacuum System with HMI/PBMI

Rev. 4/26/13

MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VOPQ0505	96"	55"	83"	2"	2"
VOPQ0755	96"	55"	83"	2"	2"
VOPQ1005	96"	55"	83"	3"	2"



Oilless Medical Vacuum System 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	
VOPQ0505	5	22.1	66.3	200	38,175	82	58.8	54	28	2,800
VOPQ0755	7.5	30.4	91.2	200	57,263	84	88	84.4	43.2	3,150
VOPQ1005	10	56.0	168.0	200	65,661	84	122	119.6	63.2	3,900

- 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