

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.

ROTARY VANE VACUUM PUMP

The medical vacuum pumps shall be of the rotary vane air-cooled design. Each vacuum pump shall be direct-driven through a shaft coupling by a TEFC electric motor. Belt drives shall not be permitted. The vacuum pumps shall be mounted on vibration isolators.

- Each vacuum pump shall be air-cooled and have absolutely no water requirements.
- Each pump is equipped with a 10 micron inlet filter for removal of particulates.
- Lubrication shall be provided by an integral, fully re-circulating oil supply that is filtered by an automotive-type, spin-on oil filter. Non-re-circulating (once-through) or partial re-circulating oil supply systems shall not be permitted. Each vacuum pump shall be capable of operation with ISO 100 viscosity oil.
- The oil separation systems shall be integral and shall consist of no less than three stages of internally installed oil and smoke eliminators through which the exhaust gas stream must pass. This system shall consist of bulk separation, oil mist elimination, and smoke elimination, and shall be capable of removing 99.9+ percent of all oil and smoke particles from the exhaust gas stream.
- Each vacuum pump shall include a built-in, anti-suck-back valve, mounted at the pump inlet, and three sliding vanes.

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



**Lubricated Vane Medical
Vacuum System**
Rev. 10/3/13

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 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

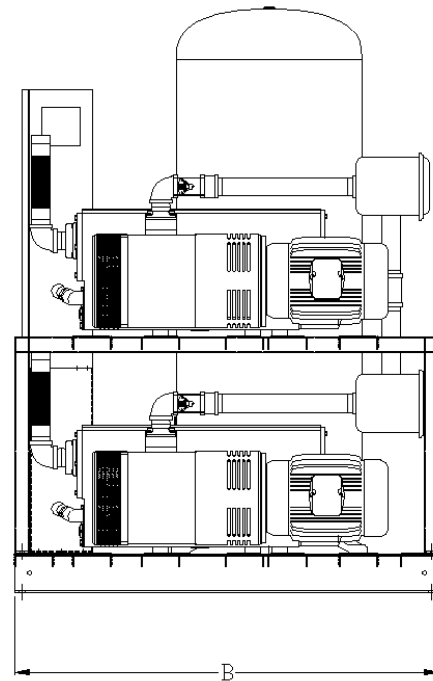
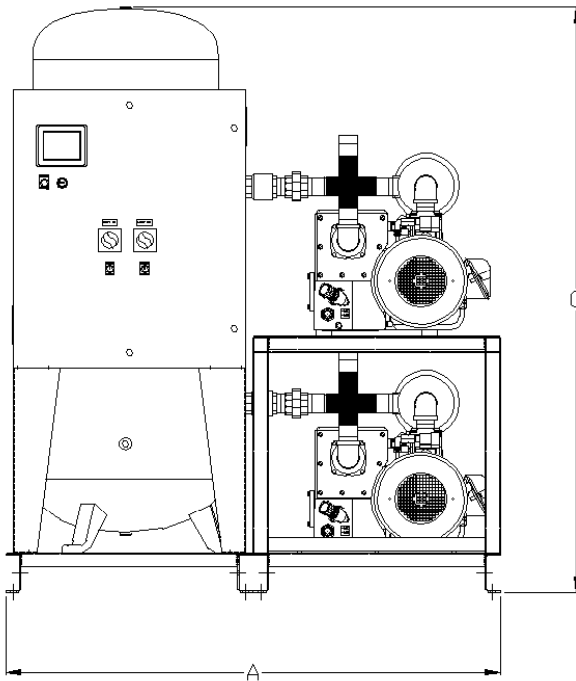
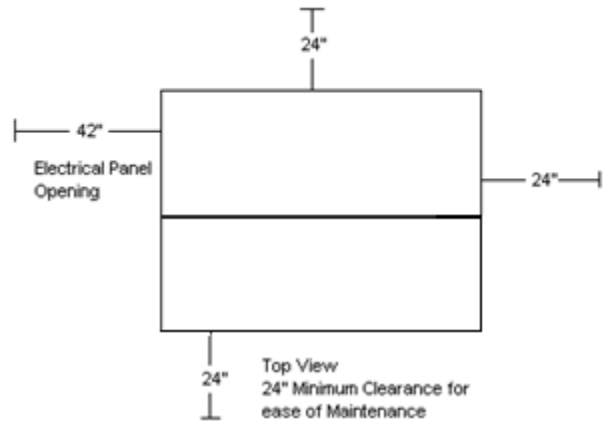
- ☐ Oil temperature gauges
- ☐ Internal tank lining for corrosion resistance



Medical Vacuum Package 7.5-10 HP with HMI/PBMI

Rev. 03/22/13

DIMENSIONS					
MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet x2
VPD0754	66"	55"	76"	2"	2"
VPD1004	66"	55"	76"	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) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WEIGHT
							208V	230V	460V	
VPD0754	7.5	52	52	120V	19,088	79	44	42.8	22.4	2,000
VPD1004	10	77	77	120V	25,450	81	54.8	53.2	27.6	2,300

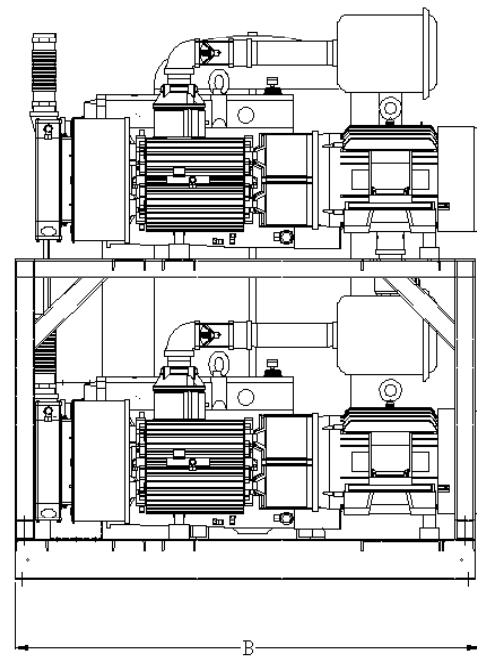
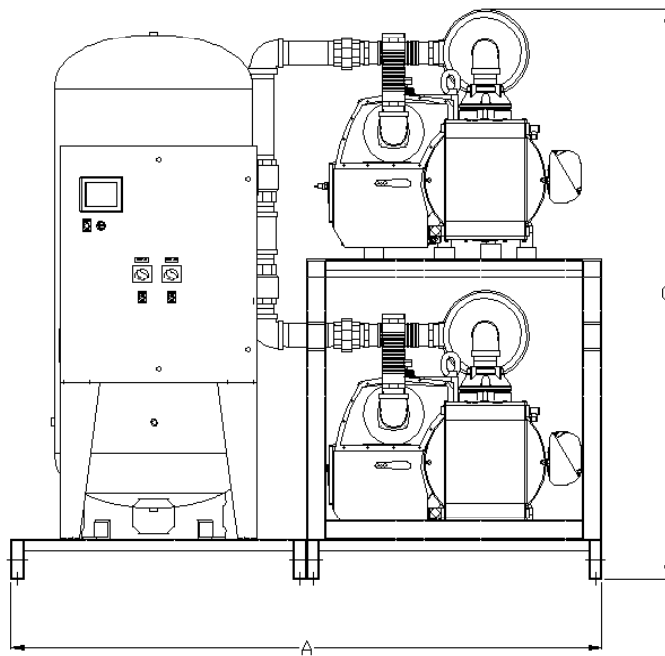
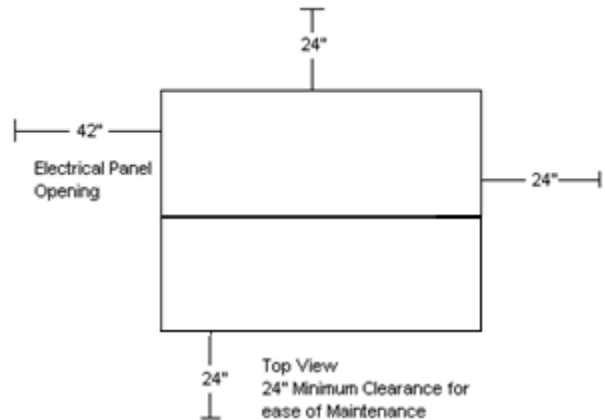
- Notes:
- 1- System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve pump(s) on standby
 - 3 - dB(A) is shown with one pump in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty



Medical Vacuum Package 15-25 HP with HMI/PBMI

Rev. 7/25/12

DIMENSIONS					
MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VPD1505	90"	70"	87"	3"	3"
VPD2005	90"	70"	87"	3"	3"
VPD2505	90"	71"	87"	3"	3"



Medical Vacuum Package with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg	NFPA System Capacity ¹	TANK SIZE	BTU/HR ²	dB(A) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VPD1505	15	111	111	200	38,175	83	82.8	76.8	39.4	3,200
VPD2005	20	137	137	200	50,900	84	110	106	54	3,600
VPD2505	25	168	168	200	63,625	85	138	126	64	5,000

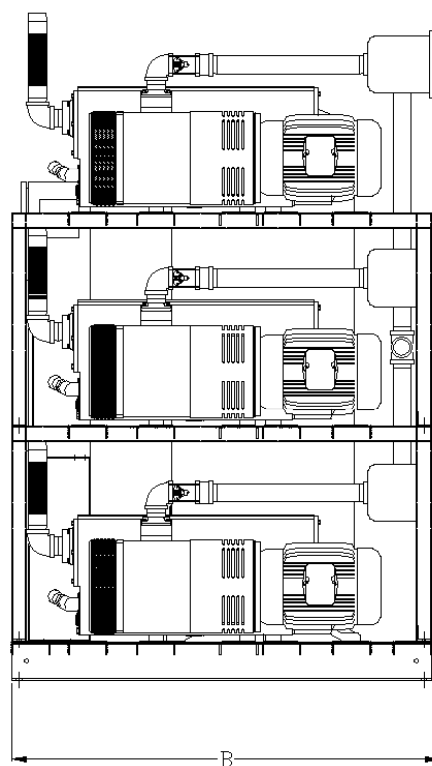
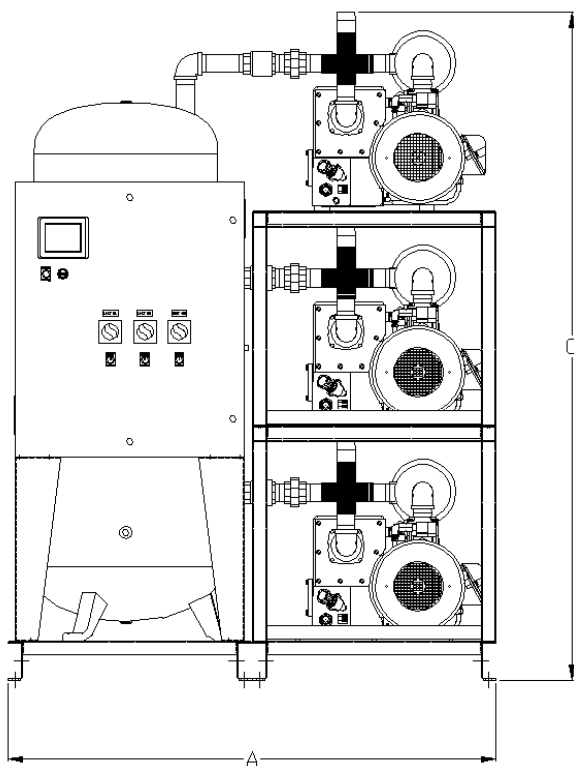
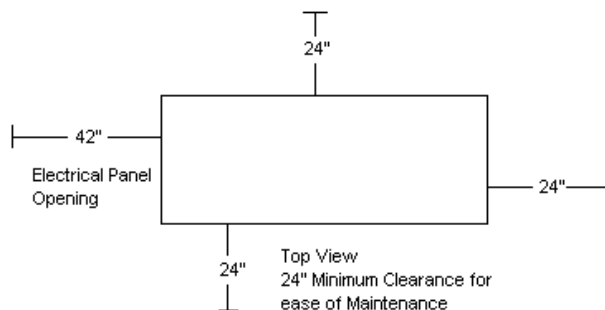
- Notes:
- 1- System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve pump(s) on standby
 - 3 - dB(A) is shown with one pump in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty



Medical Vacuum Package with HMI/PBMI

Rev. 03/22/13

MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet x3
VPT0504	66"	55"	88"	2"	2"
VPT0754	66"	56"	88"	3"	2"
VPT1004	66"	56"	88"	3"	2"



Medical Vacuum Package with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg Each	NFPA System Capacity ¹	TANK SIZE	BTU/HR ²	dB(A) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VPT0504	5	37	74	120	25,450	81	45.8	41	21.5	1,800
VPT0754	7.5	52	104	120	38,175	82	65	63.2	32.6	2,450
VPT1004	10	77	154	120	50,900	84	81.2	78.8	40.4	2,750

- 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

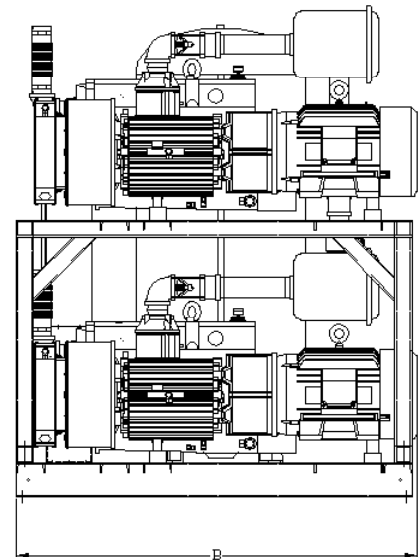
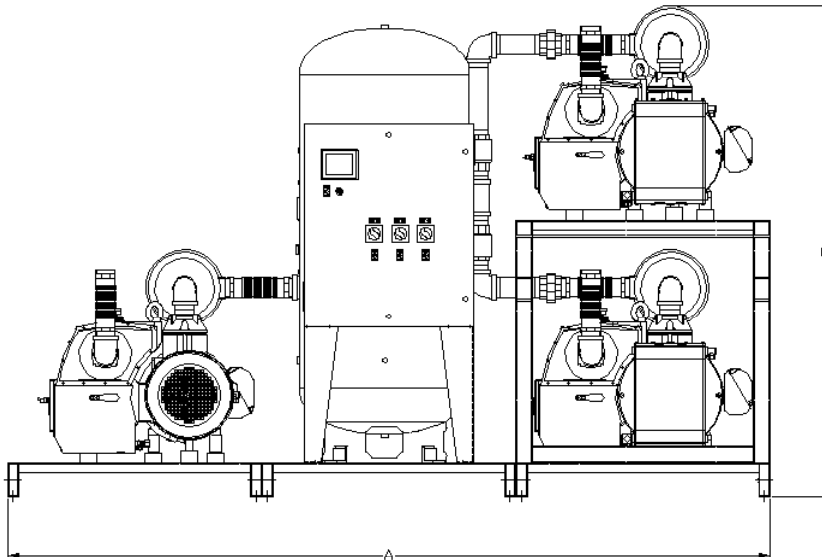
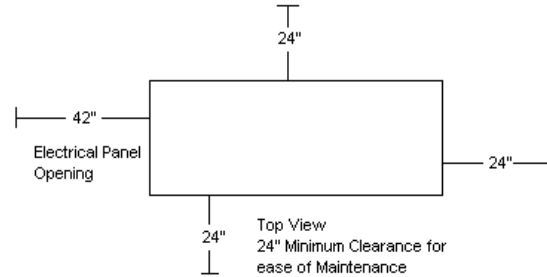


Medical Vacuum Package

15-25HP with HMI/PBMI

Rev. 7/25/12

MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet x3
VPT1505	135"	70"	87"	4"	3"
VPT2005	135"	70"	87"	4"	3"
VPT2505	135"	71"	87"	4"	3"



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	
VPT1505	15	111	222	240	76,350	86	123.2	114.2	58.1	5,800
VPT2005	20	137	274	240	101,800	87	164	158	80	6,300
VPT2505	25	168	336	240	127,250	88	206	188	95	6,950

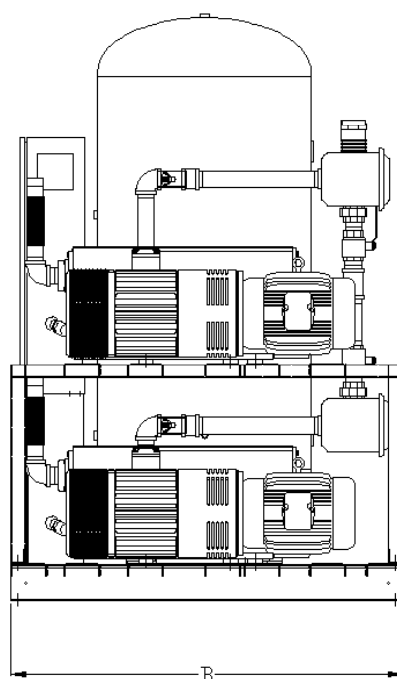
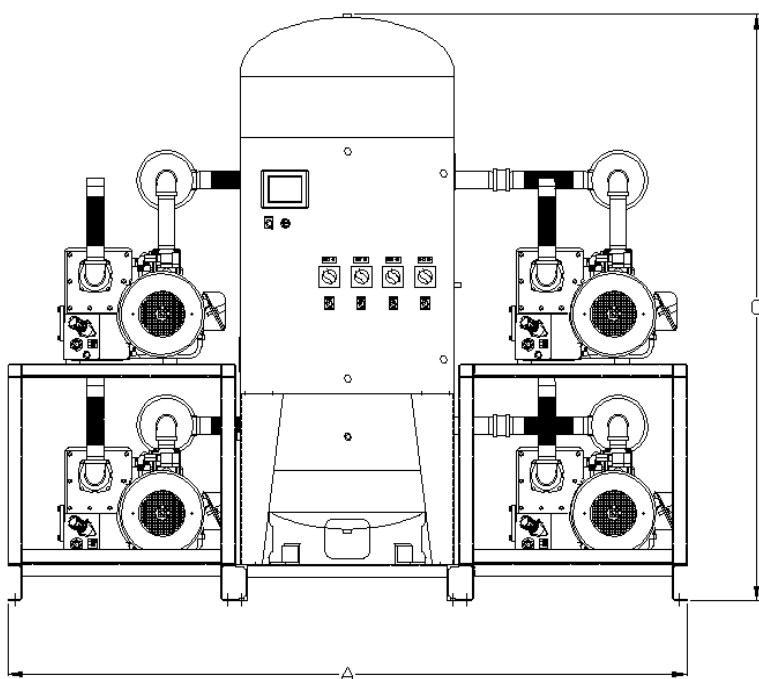
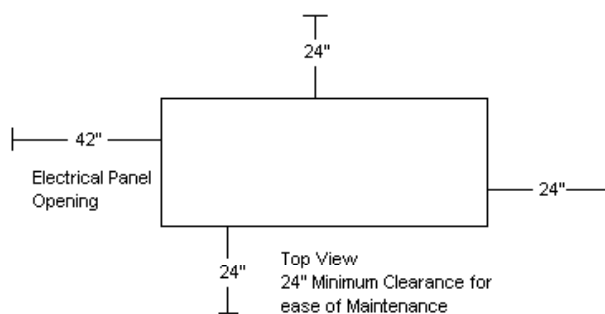
- Notes:
- 1 - System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve pump(s) on standby
 - 3 - dB(A) is shown with one pump in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty



Medical Vacuum Tankmount Quadplex System with HMI/PBMI

Rev. 03/22/13

DIMENSIONS					
MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet x4
VPQ0505	98"	55"	83"	3"	2"
VPQ0755	98"	55"	83"	3"	2"
VPQ1005	98"	55"	83"	3"	2"



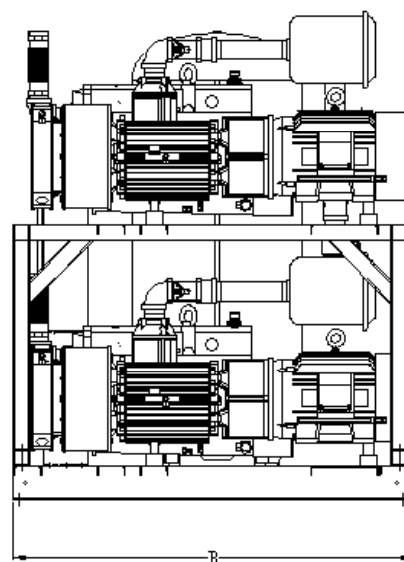
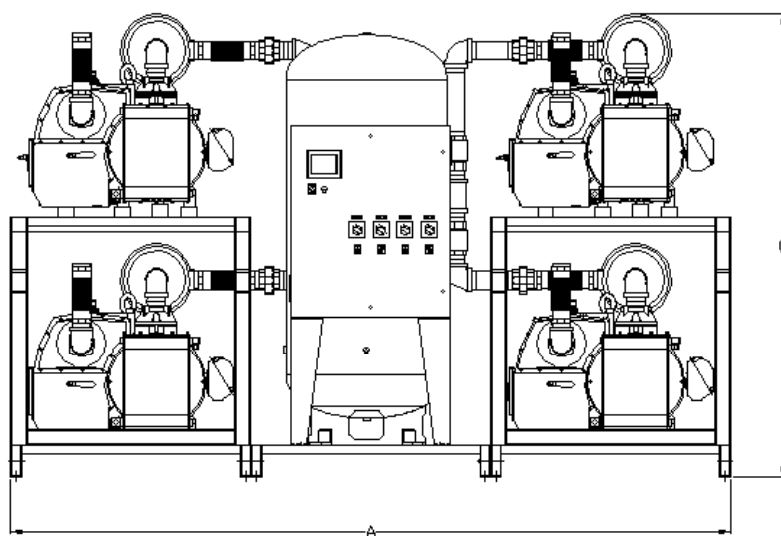
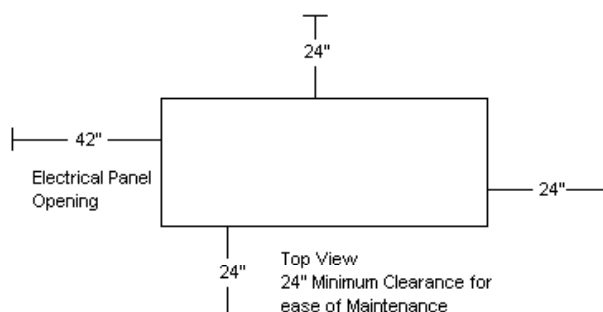
Medical Vacuum Package with HMI/PBMI										
MODEL	HP	SCFM @ 19" Hg Each	NFPA System Capacity ¹	TANK SIZE (Gal.)	BTU/HR ²	dB(A) ³ LEVEL	SYSTEM F.L.A.			SYSTEM WT. (LBS.)
							208V	230V	460V	
VPQ0505	5 (4)	37	111	200	38,175	83	60.4	54	28	2,500
VPQ0755	7.5 (4)	52	156	200	57,263	84	86	83.6	42.8	3,000
VPQ1005	10 (4)	77	231	200	76,350	86	107.6	104.4	53.2	3,600

- 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

Medical Vacuum Tankmount Quadplex System with HMI/PBMI

Rev. 7/25/12

DIMENSIONS					
MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet x4
VPQ1505	135"	70"	90"	4"	3"
VPQ2005	135"	70"	90"	4"	3"
VPQ2505	135"	70"	90"	4"	3"



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	
VPQ1505	15 (4)	111	333	200	114,525	88	163.6	151.6	76.8	7,000
VPQ2005	20 (4)	137	411	200	152,700	89	218	210	106	7,700
VPQ2505	25 (4)	168	504	200	190,875	90	274	250	126	8,600

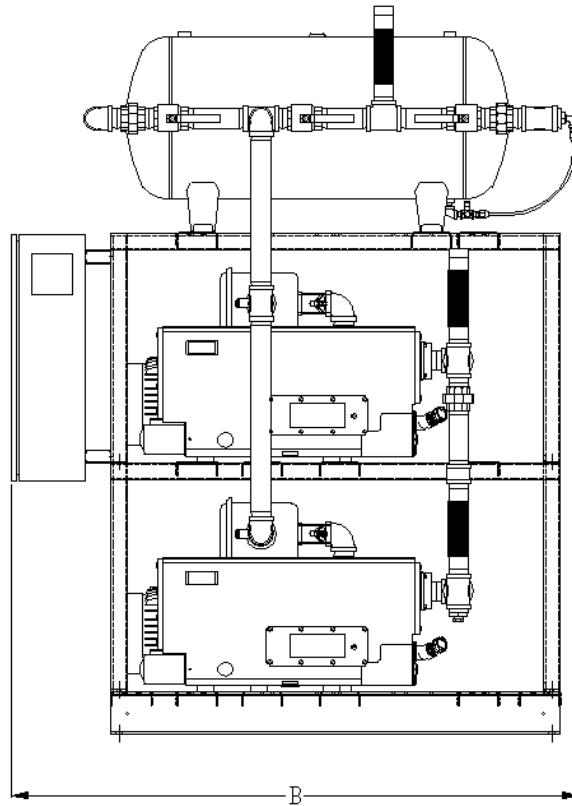
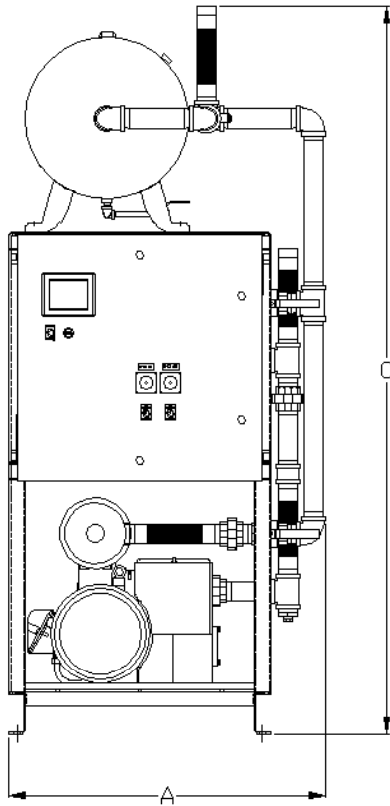
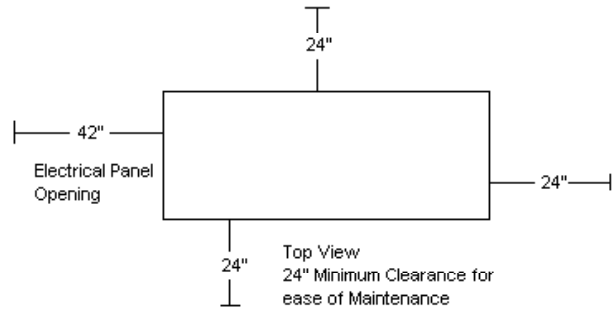
- Notes:
- 1- System Capacity is shown with one or more pumps in reserve per NFPA 99
 - 2 - BTU/HR Levels are shown with reserve pump(s) on standby
 - 3 - dB(A) is shown with one pump in reserve per NFPA 99
 - 4 - 3 Year Limited Warranty



Medical Vacuum Tankmount 5HP-7.5HP with HMI/PBMI

Rev. 09/19/12

MODEL	DIM. A	DIM. B	DIM. C	Inlet	Outlet
VPDT0402	40"	70"	89"	1-1/2"	1-1/2"
VPDT0502	39"	70"	89"	2"	2"
VPDT0752	39"	70"	89"	2"	2"



Medical Vacuum Tankmount - 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	
VPDT0402	5	26	26	60	12,725	71	29.6	28	15	1,590
VPDT0502	5	37	37	60	12,725	71	31.2	28	15	1,815
VPDT0752	7.5	52	52	60	19,088	79	44	42.8	22.4	2,295

- 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 NFPA99
 - 4 - 3 Year Limited Warranty