

Specification

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.

Claw Vacuum Pump

Each pump shall be a rotary claw 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 two claw-type, non-contacting rotors and shall not require any sealing fluid in the pumping chamber, assuring virtually maintenance-free operation.
- Each vacuum pump shall include an internal relief valve, and a built-in, anti-suck-back valve mounted at the pump inlet.
- Each pump within the system shall include 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.

Premium NFPA 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 Premium NFPA Control panel shall include a gateway server card and all features listed below:

- PLC controller and a color touch screen panel which displays the operating status of the unit.
- Building automation communication gateway with BacNet® protocol and Web server features. Web servers 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.
- 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 VFD Control Panel

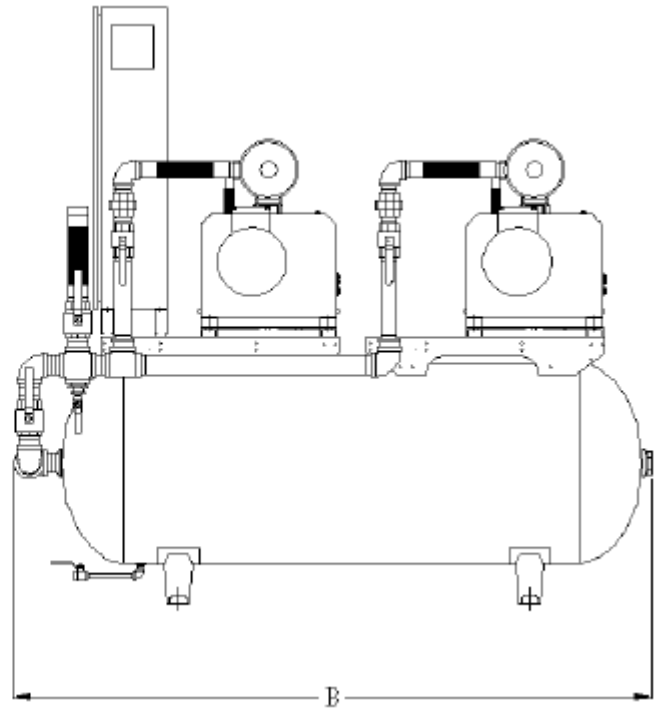
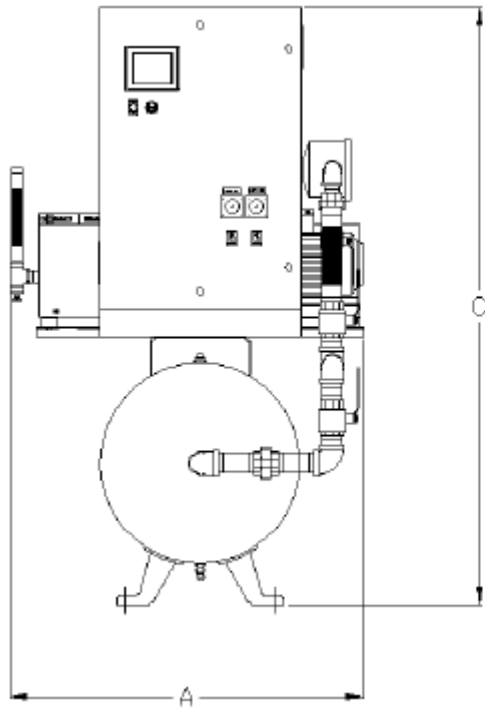
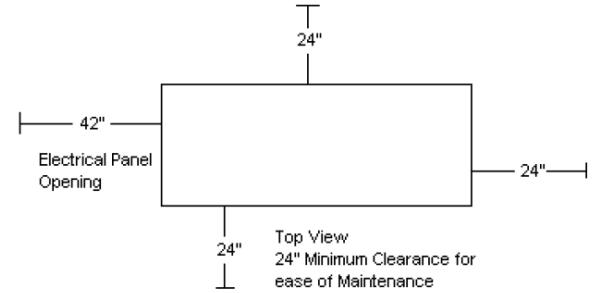
Variable Frequency Drive (VFD) control improves efficiency over a conventional “on/off” demand based system by more closely matching the pump speed to the changing load requirements. All VFD systems come standard with a Premium NFPA Control panel. The VFD and Premium NFPA Control Panel shall include a gateway server card and all features listed below:

- PLC controller and a color touch screen panel which displays the operating status of the unit.
- 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.
- 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, VFD start/stop switch 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.

Available Options

- Oxygen assured pumps - prepared for use in WAGD systems.
- Internal tank lining for corrosion resistance.
- Variable Frequency Drive (VFD) Control Panel – with Premium NFPA controls.

Dimensions					
Model	Dim. A	Dim. B	Dim. C	Inlet	Outlet (x4)
CVTD0203	42"	71"	68"	1 ½"	1"
CVTD0303	42"	71"	68"	1 ½"	1"
CVTD0504A	43"	77"	72"	2"	1"
CVTD0504B	43"	77"	72"	2"	1"

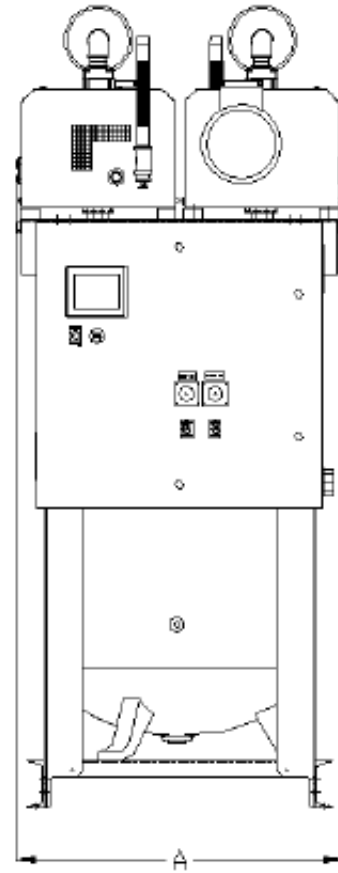
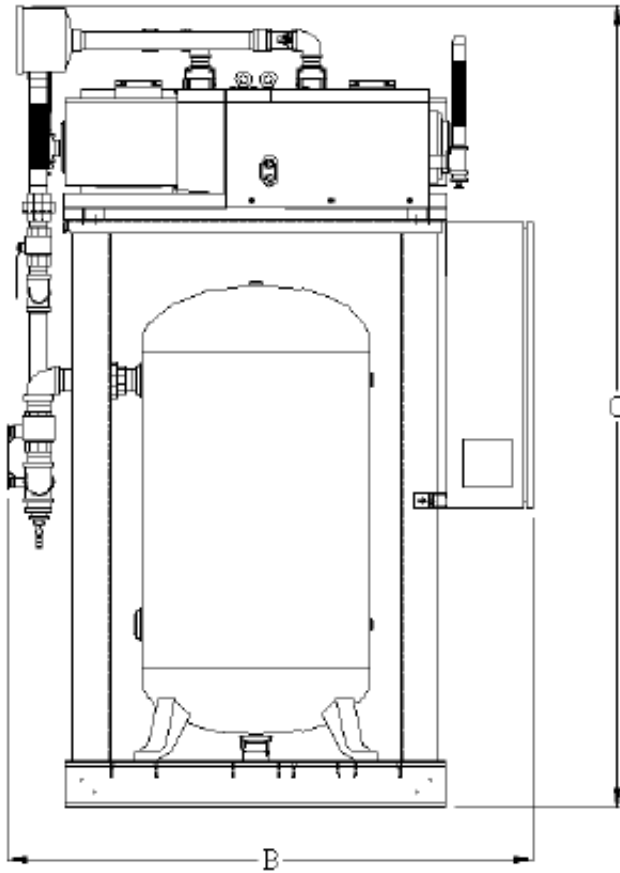
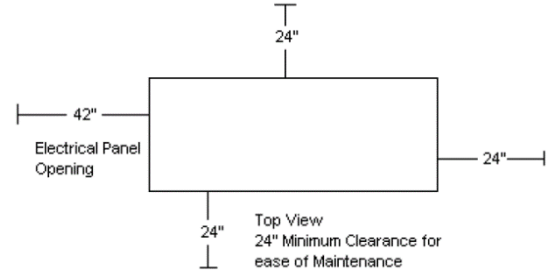


Claw Vacuum Tankmount Duplex with Premium Controls										
Model	HP	SCFM @ 19" Hg each	NFPA System Capacity ⁽¹⁾	Tank Size (gal)	BTU/Hr ⁽²⁾	dB(A) Level ⁽³⁾	System F.L.A.			System Weight (lbs)
							208V	230V	460V	
CVTD0203	2 (2)	16	16	80	4,335	70	14.4	13.2	7.6	1,000
CVTD0303	3 (2)	21	21	80	6,503	70	20.8	18.8	10.4	1,200
CVTD0504A	4 (2)	29	29	120	8,670	79	22	24.4	13.2	1,400
CVTD0504B	5 (2)	38	38	120	10,838	79	26.8	24.8	13.4	1,460

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) levels are shown with one pump in reserve per NFPA 99.
- 4 – 3 Year Limited Warranty.

Dimensions					
Model	Dim. A	Dim. B	Dim. C	Inlet	Outlet (x4)
CVTD0203V	35"	56"	82"	1 ½"	1"
CVTD0303V	35"	56"	82"	1 ½"	1"
CVTD0504AV	35"	56"	85"	2"	1"
CVTD0504BV	35"	56"	85"	2"	1"



Claw Vacuum Tankmount Duplex with Premium Controls										
Model	HP	SCFM @ 19" Hg each	NFPA System Capacity ⁽¹⁾	Tank Size (gal)	BTU/Hr ⁽²⁾	dB(A) Level ⁽³⁾	System F.L.A.			System Weight (lbs)
							208V	230V	460V	
CVTD0203V	2 (2)	16	16	80 V	4,335	70	14.4	13.2	7.6	1,300
CVTD0303V	3 (2)	21	21	80 V	6,503	70	20.8	18.8	10.4	1,520
CVTD0504AV	5 (2)	29	29	120 V	8,670	79	22	24.4	13.2	1,650
CVTD0504BV	5 (2)	38	38	120 V	10,838	79	26.8	24.8	13.4	1,720

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) levels are shown with one pump in reserve per NFPA 99.
- 4 – 3 Year Limited Warranty.