

AES Group, Inc.

Sales • Construction • Service

AES-Powerex Medical Claw Vacuum System with Premium Controls - Specification

BASE MODEL NUMBER: CVTD0303V-AES-SPL
SYSTEM CAPACITY: 21 SCFM @ 19" HG VAC
*With One (1) Vacuum Pump in Reserve per NFPA99
HORSEPOWER: 6 HP (3HP x 2)
RECEIVER SIZE/CONFIGURATION: 80 Gallon – Vertical
ELECTRICAL: 208/230/460V, 3PH, 60HZ
(MUST SPECIFY VOLTAGE WHEN ORDERING)

*OSHPD OSP 393-10

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.
- ASME 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 operations.

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 manual drain.

Premium NFPA Control Panel

The control system provides automatic lead/lag sequencing and automatic alternation of all pumps 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 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 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.

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- 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 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 operation 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.

Optional Integrated Medical Vacuum Filtration

- Designed to remove solid, liquid, and bacterial contamination as small as 0.3 micron through HEPA grade filters. Each inlet canister to contain two ports with translucent sight tube and drain vale to detect and drain liquid accumulation.

Available Options –

- Oxygen assured pumps – prepared for use in WAGD systems.
- Internal tank lining for corrosion resistance.