

AES Group, Inc.

Sales • Construction • Service

AES-Powerex Vacuum System Model: VPT0504-AES-SPL (5HP) Specification

BASE MODEL NUMBER:	VPT0504-AES-SPL
NFPA SYSTEM CAPACITY:	74 SCFM @ 19"HGVAC
HORSEPOWER:	15 HP Total (5HP x 3)
RECEIVER SIZE/CONFIGURATION:	120 Gal - Vertical
ELECTRICAL:	460V, 3PH, 60Hz. – 65K SCCR Rating
	(MUST SPECIFY VOLTAGE WHEN ORDERING.)

**System performance shown with one pump module in reserve per NFPA 99*

GENERAL DESCRIPTION

The Powerex medical vacuum system is designed to create a suction system to remove unwanted fluids or gases from Hospital working areas. The medical vacuum system package is compliant with the NFPA 99 requirements for medical vacuum and is operationally tested prior to shipment. The package shall include multiple vacuum pumps and associated equipment, one ASME tank and one medical control panel. Each pump is factory piped to a common intake manifold. Vibration isolation pads are included with the system.

DETAILED PRODUCT DESCRIPTION:

ROTARY VANE VACUUM PUMP

Three oil sealed carbon-fiber vanes are housed in the pump rotor. As the rotor turns, centrifugal force pushes the vanes against the cylinder wall to help form suction. The rotor and pump housings are made of cast iron and machined with precision tolerances to provide increased vane life and reliability. Oil is used for lubrication and cooling and also helps seal the suction system. Lubrication oil is separated from the vapor as the materials are pumped through the exhaust compartment. The exhaust process shocks and expands the material through a 30-micron cartridge coalescing filter. The vapor is vented to the atmosphere and the oil is trapped for automatic recycling. Inlet filtration is required to prevent solid particles from entering the pump. Powerex provides polyester inline filters to 5 micron as standard.

VACUUM RECEIVER

The system shall include an ASME rated air receiver rated for 200 PSIG and full vacuum. The tank shall be equipped with a vacuum gauge, bypass valves, a tank sight gauge and a manual drain.

PREMIUM NFPA CONTROL PANEL

The control system provides automatic lead/lag activation based on demand and automatic alternation of all pumps in order to equalize the amount of usage among the available pumps. The control panel shall include:

- A color touch screen panel which displays the operating status of the unit. The touch screen will display pump status, pump faults, pump run hours, system pressure, system alarms and service alert notifications for the pumps.
- Building automation communication gateway, with BacNet® protocol. Ethernet port for connection to BacNet® /IP server or direct connection to facility Ethernet for viewing of system operations and status via device IP-address.
- A PLC controller that includes logic programmed to appropriately manage start-stop, lead-lag and other pump operations.
- UL508A listed control panel in a NEMA 12 enclosure.

SYSTEM CONNECTIONS

The system is supplied with a remote intake connection and flexible connectors for both intake and discharge. All piping complies with current NFPA 99 requirements.

TOTAL OXIDIZER MONITOR: Vacuguard+ (installed)

*4330 Redwood Highway, Suite 100
San Rafael, CA 94903
Tel 415 507-9373 Fax 415 507-9376*

Total Oxidizer Monitor with mitigation, Oxygen monitoring system range 0-95%, with dry contact alarm relays and 10' remote KF25 vacuum flange (1" MPT). Mitigation system includes vacuum transducer and mitigation solenoid valve. Monitor to be mounted on the vacuum skid and powered from the main control panel. Includes dry contact for remote monitoring. Mitigation gas to be inert gas (typically nitrogen – customer supplied) or ambient air.