

GPVBQ-XXXX-P-200 5-9 HP Quadruplex Oil-free Dry Claw Laboratory Vacuum System-Stack

SYSTEM DESCRIPTION:

The GLOBALVAC & AIR Quadruplex Oil-free Dry Claw Laboratory Vacuum System is built as three skids bolted together for ease of transporting and installation. Two skids will each consist of two rotary claw vacuum pumps mounted on an assembled frame in a vertical configuration. A 3rd skid is built with a 200 gal vertical receiver with a mounted and wired quadruplex PLC control panel. All pumps are piped to a 3-valve bypass on the receiver via flex connectors. The system is built with single point connections for process inlet, system discharge on each pump skid and system power. The complete assembly is finished in GLOBALVAC white and supplied with inlet and discharge flex connectors and vibration pads. The discharge manifolds are supplied with a drip leg and condensate ball valve. The system is piped, wired and factory tested prior to shipment.

OIL-FREE DRY CLAW VACUUM PUMP:

The vacuum pump is direct driven by a continuous duty NEMA rated, TEFC, C-face flanged motor available in 208-230/460/3/60 electrical service. The contact free operating principle provides a nearly maintenance-free operation. The pump is oil-free in the pumping chamber and only requires oil change of Gear Oil. Each pump is air cooled and rated for continuous operation at ultimate pressure. Each pump contains:

- Built-in check valve
- Internal inlet screen
- Pump mounted secondary check valve
- 5 micron inlet filter with polyester element
- Pump isolation valve
- Hi-temp discharge switch
- Oil sight glass (GEAR OIL)
- Oil drain valve (GEAR OIL)
- Exhaust flex connector

AUTOMATIC PURGE SYSTEM:

Each pump is equipped with an automatically controlled purge process. The purge operation consists of an electrically actuated (no compressed air required) normally open solenoid valve closes which isolates the pump from the system while a purge (bleed) solenoid valve opens to atmosphere to remove any gases from the pumping chamber and prevent condensation as the pump cools.

VACUUM RECEIVER:

The 200 gallon vertical vacuum receiver is ASME coded and rated for 200 PSI and full vacuum. The receiver is equipped with sight glass, drain valve and a 3" 3-valve bypass for servicing the receiver without interrupting the vacuum process. The receiver is Epoxy Lined for corrosion resistance.

QUADRUPLEX PLC CONTROL PANEL:

The system is controlled by UL labeled quadruplex PLC control panel. The controller provides automatic alternation of the pumps or simultaneous operation if needed. Supplied with comprehensive software package which will display system and pump status and allow adjustment of system parameters. The control panel is built with:

- Finger safe power distribution block
- 120V control transformer with CB protection for primary and secondary circuits
- 120vac/24vdc power supply
- 7" color OIT with integrated Hand/Off/Auto
- Door mounted system disconnect
- Door mounted Emergency Stop button
- Motor Circuit Protector/Disconnect for each pump externally operated
- Adjustable run-on timer (frequent start protection) integrated into OIT
- Automatic restart after power outage and restoration
- 4-20ma transmitter to control pumps via PLC input
- Selectable, Auto Timed Alternation (default), Auto Alternation or Manual Alternation
- Hourmeter integrated into OIT
- Pump status indicators integrated into OIT
- General system fault/warning integrated into OIT
- Dry contacts for remote monitoring
- Maintenance screens with adjustable time intervals for tracking critical maintenance items
- UL508A listed NEMA 12 enclosure
- Low vacuum alarm which may be enabled/disabled
- Door mounted Bypass circuit with selector switch, bypasses PLC control and allows continuous operation of all pumps using the motor circuit protector (MCP) disconnects as OFF/ON switches
- Panel mounted vacuum gauge
- StrideLinx cloud management (VPN)
- Ethernet bulkhead for temporary site connection
- 208-230/460/3/60 power input available
- *OPTIONAL: Real Time Automation (RTA) protocol converter for BMS interface available (Modbus TCP/IP-BACnet/IP Client Gateway)*

