



Duplex Oil Free Claw Laboratory Vacuum System-Vertical Frame

System Description:

The *Global Vac & Air* duplex oil-free dry claw laboratory vacuum system is built as two dry claw vacuum pumps mounted on an assembled frame over an 80-gallon vertical receiver with a mounted and wired PLC control panel. The system is completely tested before shipment and is built with single point connection for process inlet, and system power. The complete assembly is finished in GLOBALVAC white and supplied with inlet and discharge flex connectors and vibration pads. The system is piped, wired and factory tested prior to shipment.

Oil-Free Dry Claw Vacuum Pump:

The vacuum pumps are direct driven by a continuous duty TEFC motor available in 208-230/460/3/60 electrical service. Additional electrical supply options available upon request. 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 an ultimate pressure of 28.1" HgV without overheating. Each pump contains:

- Integrated and pump mounted check valves
- 5 micron inlet filter with polyester element
- Internal inlet screen
- Pump isolation valve
- Oil sight glass (gear oil)
- Oil drain valve (gear oil)
- Exhaust high temperature switch
- Inlet & outlet flex connector

Automatic Purge System:

Each pump is equipped with an automatically controlled purge system. The purge system actuates prior to pump shutdown by closing an inlet solenoid valve and opening a separate purge solenoid valve to atmosphere to remove any gases from the pumping chamber thus preventing condensation as the pump cools.

Vacuum Receiver:

The vertical vacuum receiver is ASME coded and rated for 200 PSI and full vacuum. The receiver is equipped with sight glass, drain valve, and single point process inlet valve. The receiver is epoxy lined for corrosion resistance.

Duplex Control Panel:

The system is controlled by a UL labeled duplex mounted and wired control panel.

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
- Adjustable run-on timer (frequent start protection) integrated into OIT
- 4-20ma transmitter to control pumps via PLC input
- Selectable, Auto Timed Alternation (default), Auto Alternation or Manual Alternation
- Hour meter 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
- Panel mounted vacuum gauge
- Ethernet bulkhead for temporary site connection
- *OPTIONAL: Real Time Automation (RTA) protocol converter for BMS interface available (Modbus TCP/IP-BACnet/IP Client Gateway)*



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Laboratory Vacuum System-Vertical Frame**

Model Number*	Pump motor rating (HP)**	Maximum Vacuum (in. HgV)	Nominal Capacity (ACFM/pump)**	System Capacity @ 19" Hg (SCFM/system)**	Receiver size (Gallons)	System BTU/hr**	System FLA @ 460 V / 3 / 60 Hz
VC02F-XXL-08V	2	28.1	44	32	80	8,653	6.8
VC03F-XXL-08V	3	28.1	57	42	80	12,980	9.6
VC04F-XXL-08V	4	28.1	79	58	80	17,306	12.4
VC05F-XXL-08V	5.4	28.1	103	75	80	23,363	16.4

*XX in the model number is a placeholder for system voltage. 43=460V/3/60Hz, 23=230V/3/60Hz, 53=575V/3/60Hz

** All data shown assumes 60 Hz electrical supply