



Pentaplex Oil-Less Scroll Medical Air System

System Description:

The *Global Vac & Air* Oil-less Scroll Medical air system is NFPA99 compliant and built as three skids bolted together for ease of transport and installation. One skid consists of the system control panel and two oil-less scroll compressors mounted on an assembled frame in a vertical configuration. The second skid consists of three additional scroll compressors stacked vertically. The third skid is built with an epoxy lined vertical receiver and two heatless regenerative desiccant drying systems piped in parallel. The system is built with a single point connection for air discharge, drainage, and system power. The system is piped, wired, and factory tested prior to shipment.

Oil-Less Scroll Compressor Assembly:

The system includes five air cooled oil-less scroll compressors with a piped intake manifold. Each compressor is belt driven and requires absolutely no oil. All interconnecting wiring, plumbing, and vibrations isolation pads are included. Each assembly contains:

- TEFC NEMA Electric motor
- Integral cooling fan and aftercooler
- 5-micron inlet filter with isolation valve and vacuum switch for compressor protection
- Exhaust high temperature switch
- Inlet & outlet flex connector
- Adjustable motor mounting base to achieve proper belt tensioning

Air Filtration, Dryer, and Regulator:

The system contains two heatless regenerative desiccant dryers piped in parallel. Each dryer is sized for full system demand producing a pressure dewpoint of 10°F. Each dryer has an energy savings feature that actuates the purge cycle as needed depending on the actual dew point reading. All filters and the tank drain are manifolded together with an electrically actuated automated drain valve for single point connection of oil-free condensate drainage. Each dryer can independently be isolated without stopping airflow to the facility. Each dryer assembly includes the following items:

- Carbon monoxide monitor w/ ± 1 ppm accuracy
- Outlet adjustable pressure regulator with gauge and safety relief valve
- Outlet particulate filter with manual drain and element change indicator
- Inlet filtration consists of two coalescing filters, rated 1 micron and 0.01 micron.
- Outlet filtration consists of one 0.01-micron coalescing filter.

Air Receiver:

The ASME coded vertical air receiver is ASME coded and rated for a minimum of 200 PSIG. The receiver is epoxy lined for corrosion resistance. The receiver assembly is equipped with the following items:

- Sight glass to check for excess liquid
- Electrically actuated timer drain valve
- Manual drain valve
- Mechanical water separator between each compressor outlet and tank inlet
- 3-valve bypass
- Pressure Gauge

Pentaplex NFPA99 Control Panel:

The system is controlled by a UL labeled NFPA99 compliant pentaplex mounted and wired control panel.

The control panel is built with:

- Finger safe power distribution block
- Dual 120V control transformer with CB protection for primary and secondary circuits
- Dual 120vac/24vdc power supply
- Transformer switching circuit to utilize backup transformer in event of primary transformer failure
- Transformer/Power Supply failure warning circuit, activates system general warning relay and PLC display warning indicator if either should fail
- 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
- 4-20 mA dew point transmitter with unique autocalibration function and $\pm 2^{\circ}\text{C}$ accuracy
- 4-20 mA pressure 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 pressure alarm which may be enabled/disabled
- Door mounted Bypass circuit with selector switch
- Panel mounted pressure gauge
- Ethernet bulkhead for temporary site connection
- *OPTIONAL: Protocol converter for BMS interface (Modbus TCP/IP-BACnet/IP Client Gateway)*



**Pentaplex Oil-Less Scroll
Medical Air System**

Model Number*	Pump motor rating (HP)	Maximum Pressure (PSIG)	System capacity @ 50 PSIG (SCFM)**	System capacity @ 50 PSIG (ICFM)**	Receiver / Orientation
CC05P-XXM-20V	5	115	66.0	73.2	200 Gallon Vertical
CC07P-XXM-20V	7.5	115	92.0	102.0	200 Gallon Vertical
CC07P-XXM-24V	7.5	115	92.0	102.0	240 Gallon Vertical
CC10P-XXM-20V	10	115	126.0	136.0	200 Gallon Vertical
CC10P-XXM-24V	10	115	126.0	136.0	240 Gallon Vertical

*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; Capacity listed assumes one pump in reserve per NFPA99 requirements