

# AES Group, Inc.

*Sales • Construction • Service*

AES-Powerex Medical Air System Model: MSQ05A4-AES-SPL Specification

BASE MODEL NUMBER: MSQ05A4-AES-SPL  
SYSTEM CAPACITY: 49.8 SCFM @ 50 PSIG  
HORSEPOWER: 20 HP Total (5HPx4)  
RECEIVER SIZE/CONFIGURATION: 120 Gallon - Vertical  
ELECTRICAL: 460V, 3PH, 60Hz  
**(MUST SPECIFY VOLTAGE WHEN ORDERING.)**

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

## GENERAL DESCRIPTION

The Medical Scroll System is a skid mounted design consisting of multiple oil-less scroll compressors; dual air dryers with purge control, dual filtration system, CO & dew point monitors, wired control panel, and corrosion resistant air receiver. The Medical Scroll System shall be modular in design to be fully compliant with the latest edition of NFPA 99. The Medical Scroll System shall be provided with single point connections for electric, discharge air, and condensate drains.

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## DETAILED PRODUCT DESCRIPTION:

### OIL-LESS SCROLL COMPRESSOR PUMP

The compressors shall be belt driven oil-less rotary scroll single stage, air-cooled oil-less construction with absolutely no oil needed for operation. The rotary design shall not require any inlet or exhaust valves and shall be rated for 100% continuous duty. Direct drive compressors shall not be used. Tip seals shall be of a composite PTFE material and be rated for 8,000 hours operation. Compressor bearings shall be external to the air compression chamber and shall all be serviceable for extended compressor life. Bearing maintenance shall not be required until 8,000 run hours. Compressors with bearings that are not accessible for service have a limited life span and shall not be accepted. Compressors shall have an integral radial flow fan for cooling and shall not require any additional electric cooling fans. Each compressor to be equipped with the following components:

- Isolation, check, and safety valve (1 for each base mount unit)
- ODP electric motor, belts & belt-guard (1 for each base mount unit)
- Air-cooled aftercooler with separator (1 for each base mount unit)
- T.M.P.D. (Thermal malfunction protection device) (1 for each base mount unit)
- Pumps can have all major maintenance performed by only removing the fixed scroll side
- Compressor shall be rated for a minimum 24,000-hour run life

### MAINTENANCE-FRIENDLY MOTOR-PUMP BASE-MOUNTS

Patent-pending base-mount service slide provides safe, easy access to common maintenance items. Also includes an adjustable slide base under each motor for ease of belt replacement and tensioning.

### RECEIVER TANK

The ASME National Board registered 200 psig working pressure, vertical air receiver is provided with:

- Pressure gauge
- Relief valve
- Sight gauge
- Manual and automatic electric timed tank drain
- 3-valve bypass plumbing
- External paint and internal lining to resist corrosion

### 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:

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- 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, dryers, dew point and CO monitors.
- 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.

#### **AIR PURIFICATION SYSTEM**

- Dual heat-less, desiccant air dryers
- Dual pre- and after filters
- Dual pressure reducing valves
- Automatic dew point dependent switching to reduce purge frequency

#### **MONITORING EQUIPMENT**

- CO Monitor with audible/visual alarms & dry contacts for remote alarm signal
- Dew point monitor with audible/visual alarms & dry contacts for remote alarm signal

#### **SYSTEM CONNECTIONS**

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