AES Group, Inc.

Sales ▪ Construction ▪ Service

AES-Powerex Model AES-LSD05A3-EX3-AES-SPL Specification

BASE MODEL NUMBER:	AES-LSD05A3-EX3-AES-SPL *Duplex Expandable to Triplex
SYSTEM CAPACITY:	25 SCFM @ 145 PSIG *Expandable to 37.5 SCFM @ 145 PSIG
HORSEPOWER:	10 HP Total (5HP x 2) *Expandable to 15HP
RECEIVER SIZE/CONFIGURATION:	80 Gallon – Vertical x 2 *NOTE (1) Receiver "DRY" Shipped Loose
ELECTRICAL:	208/230/460V, 3PH, 60Hz

(MUST SPECIFY VOLTAGE WHEN ORDERING.)
*NEMA 3R Control Panel with BACNET
*System performance shown with all pumps running

General
The Powerex Laboratory Open Scroll Air Compressor System is designed to provide clean, dry air for applications where the quality of the compressed air is critical. The **High-Pressure** unit is rated for a maximum of **145 PSIG**. Each system is completely tested before shipment and includes:

- Multiple oil-less scroll air compressors and associated equipment.
- Corrosion resistant air receiver.
- Desiccant air dryers with purge control.
- Control panel.
- Dew point monitor.

Open Scroll Air Compressor System
The package shall include multiple oil-less scroll air compressors and associated equipment. The only field connections required will be system intake, exhaust, and power connection at the control panel. All interconnecting piping, wiring, and vibration isolation pads are included with the system.

Oil-less Scroll Compressor Pump
Each compressor shall be belt driven oil-less rotary scroll single stage, air-cooled construction with absolutely no oil needed for operation. Direct drive compressors shall not be used.

- The rotary design shall not require any inlet or exhaust valves and shall be rated for 100% continuous duty.
- Tip seals shall be of composite PTFE material and be rated for 5,000 hours operation for 2, 3, and 5 HP pumps, and rated for 8,000 hours operation for 7.5 and 10 HP pumps.
- Compressor bearings shall be external to the air compression chamber and shall be all serviceable for extended compressor life. Bearing maintenance shall not be required until 5,000 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 shall have flexible connectors on intake and discharge, an electric drive motor, a discharge check valve, a fan-cooled aftercooler, a condensate separator* and a high discharge temperature shutdown switch.
- Each compressor module shall have an isolation valve and a moisture separator* with automatic drain.

Motor
Each compressor shall be belt driven by a 1750 RPM, TEFC, NEMA construction motor. Motors running at speeds higher than 1750 RPM shall not be acceptable. OSHA approved belt guards shall be provided.

Air Receiver
The system shall include an ASME air receiver rated for 200 PSI MAWP. The tank shall be equipped with:

- A pressure gauge and a safety relief valve.
- Bypass valves to allow tank isolation without system shutdown.
- A sight gauge.

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- An automatic electronic tank drain with manual override.

Service Slide

The service slide enables easy maintenance access to each pump and motor base mount without having to remove them from the system.

- Unique maintenance friendly base mount slide design.
- Allows safe access to important system components necessary for improved pump life.
- Allows faster component replacement time.

Motor Slide Base

Maintenance feature designed for easy adjustment of belt tension from the motor slide on the base mount assembly.

- Robust single screw linear belt tension adjustment.
- Custom compact design.

Premium Control Panel – NEMA 3R

The control system provides automatic lead/lag sequencing and automatic alternation of all compressors in order to equalize the amount of usage among the available compressors. The Premium Control Panel shall include a gateway server card and all features listed below:

- Building automation communication gateway with BacNet® protocol and Web server features. Web server features include email notifications in case the system is in alarm or has achieved one of its maintenance intervals and requires service.
- Ethernet port for connection to BacNet® server or direct connection to facility Ethernet for viewing of system operations and status via device IP-address.
- UL508-A listed control panel in a NEMA 3R enclosure. The panel door will include:
    - 6” Color touchscreen
    - HOA (hands-off-auto) switch for each pump
    - 3-position Dryer control switch (dryer1-bothdryer2)
    - 95 dba alarm horn
    - Acknowledge push-button (to silence the horn)
- The 6-inch color touchscreen will display:
    - Pump status: On, Off, or Ready
    - Pump Faults/Service state: High temperature, overload trip, service required
    - Pump run hours
    - System pressure
    - System Dewpoint
    - Trends
- Pump information screens will display pump maintenance intervals with required service
- System alarm screen:
    - Low Pressure Alarm
    - General Fault Alarm (Pump faults)
    - Air Quality Alarm (Dewpoint or optional CO)
    - Pump Maintenance required
    - Dryer and monitor service notices
    - Alarm log

Dry contacts are provided on a labeled terminal strip for remote monitoring of all system alarms.

AIR PURIFICATION SYSTEM

- Dual heat-less, automatic pressure swing regenerative desiccant air dryers
- Designed to produce a dew point of -40°F
- Dual cyclonic water separators
- Dual .01 micron coalescing pre-filter with element change indicator and automatic condensate drain
- Dual 1 micron particulate after-filter with element change indicator
- Dual pressure reducing valves
- Automatic dew point dependent switching to reduce purge frequency and save energy
- Purge muffler for quiet operation

MONITORING EQUIPMENT

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

SYSTEM CONNECTIONS

The system is shipped with a flexible connector for discharge. Isolation pads included.

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