Single-Stage Rotary Screw Air Compressors

93-261 kW ■ 125-350 Horsepower

- Reliable
- Low life cycle cost
- Broad operating range
- Available with variable speed drive
- Available with variable capacity control
Sullair Capabilities

Sullair Leadership
Since 1965, Sullair has been recognized around the world as an innovator and a leader in rotary screw compression and vacuum technology. For more than 40 years, Sullair has designed and manufactured its own rotors and air end assemblies at the corporate headquarters in Michigan City, Indiana.

The award-winning rotary screw design sets the industry standards and delivers the quality and reliability one expects from a leader.

Sullair Technology
Utilizing the most modern technologies, equipment and advanced manufacturing techniques, Sullair designs, manufactures, assembles, and tests the most innovative compressed air and vacuum products in the industry. Sullair products are known around the world for their universally applicable design, outstanding craftsmanship and superior quality.

Sullair’s Statistical Process Control
Sullair’s Statistical Process Control (SPC) system monitors rotor quality standards to assure consistent compressor and vacuum performance.

Sullair’s Commitment to Innovation
Underlying Sullair’s leadership is a dedication to excellence and a commitment to innovation. Sullair is constantly exploring new ideas and seeking new ways to meet industry’s need for increasingly energy efficient compressed air and vacuum solutions.
Sullair offers total compressed air systems to help compressed air users reduce energy costs and improve productivity by analyzing, managing and controlling their compressed air systems.

Sullair’s air systems include: plant air audits, energy efficient products, compressed air system controls, equipment to monitor and manage systems, air distribution products, and after-purchase support.

Each component of the system is carefully matched for capacity and pressure to provide maximum performance and energy efficiency. A total Sullair system provides the user with an air quality guarantee.

Sullair’s single-stage compressors significantly reduce operating and energy costs over the entire compressor life cycle. Contributing to the energy savings are:

- Sullair’s proven air end with the low restriction inlet valve
- High efficiency fan
- Low pressure drop air-fluid separation system to prevent energy loss

Sullair designs deliver cost savings for the life of the product. Improved air filtration translates into:

- Extended separator life
- Improved fluid filter life
- Less lubricant contamination

To reduce fluid disposal costs, we offer our biodegradable Sullube™ 8000-hour fluid, or 24KT™, a long-life fluid that never needs changing.

**Air Compressor Life Cycle Costs**

Sullair’s Air Compressors Provide Reliability and Performance with a Proven Design

Continuous Duty
Sullair compressors have established themselves as outstanding compressors in the 125 to 350 horsepower range. They offer the inherent reliability of Sullair’s rotary screw design to provide continuous-duty performance. Components of every Sullair compressor have been carefully selected to assure complete reliability.

As a result of their rugged, time-proven design, Sullair compressors require only minimum maintenance for optimum performance.

Rotary Screw Dependability
These models use a single-stage rotary screw air end, featuring Sullair’s rugged bearing design: tapered roller bearings on the discharge end and cylindrical roller bearings on the inlet, for high load-carrying capacity.

Every Sullair Compressor Offers You More:
• The reliable Sullair air end
• Longer average bearing life, designed for over 100,000 hours of service

Superior Package Design
• Air-cooled or water-cooled models
• Available with or without enclosure
• Designed from the frame up as a complete package—not built with a variety of off-the-shelf components

• Serial communication between the Supervisor Controller and VSD eliminates the need for hard wired relays

Premium Efficient Motor*
• Improved energy conservation
• 250,000-hour insulation life

Broad Operating Range
These compressors are available in 125 to 350 horsepower, with capacities from 457 to 1615 acfm and pressure ratings of 100 to 175 psig.

Choice of Environmentally Compatible Compressor Fluids
• Long-life, 8000-hour Sullube™ is standard factory fill
• Non-varnishing and biodegradable
• Extended-life 24KT™ is optional
• Routine fluid disposal costs are virtually eliminated

Multi-Stage air-fluid Separation
• Dual nested separator, reduces lubricant carryover to less than 1 ppm

Fiberglass Fluid Filter
• Up to 20% more efficient than conventional paper elements.

*Optional on the LS-25S.
The Variable Capacity Control Cuts Energy Costs Dramatically

Lower Maintenance Costs
As a result of Sullair's rugged, time-proven design, the VCC requires only minimum maintenance for optimum performance. There are no troublesome belts or expensive bull gear arrangements to wear out or replace.

Part-Load Capacity Control Comparisons
The chart shows how a rotary screw compressor with variable displacement reduces power consumption as the compressor load drops. More importantly, it illustrates the substantial power savings at part-load when compared to other capacity control systems.

Sullair’s Variable Capacity Control Technology

Variable Displacement Air End
Sullair’s variable displacement air end maintains constant system pressure to the plant. Since the VCC compressors use large, efficient, slow running rotors, a lower power consumption is achieved at the top end of capacity. Oil foaming does not occur, air is not wasted to atmosphere, and bearings last longer.

The motor and air end run at optimum speed and therefore maintain optimum efficiency throughout the full variable output range.

Sullair VCC compressors react instantly to rapid changes in demand. The effective rotor length is progressively reduced as the demand is reduced which provides the most efficient part-load control system to 50% output.

This system is extremely simple and provides a cost effective, energy-efficient control alternative.

Variable Capacity Compressors Save You Power
The compressor displacement is matched to the output need. The technology assures precision operation for virtually any part-load point. It provides significant power savings at part-load conditions, compared to compressors using suction throttling, or load/no load control.

Increases Capacity Control Efficiency
By activating automatically when the unit is operating under partial load, the modulating valve goes down to as low as 40%, and allowing compression of only the required quantity of air, the spiral valve increases the efficiency of the compression process. The ultimate result is greater compression efficiency and reduced power consumption infinitely variable from 50% to 100% capacity.

How the Spiral Valve Operation Works
The compression volume varies to suit the air demand by progressively opening or closing internal bypass ports on the air end.

Capacity is matched to system demand, reducing cycling time and extending component life.

Part-Load capacity and efficiency can produce energy savings up to 17% to 30%.
The Sullair Compressors with VSD Provide:

• Excellent energy savings
• Relief from potential peak demand charges
• Possible utility company rebate
• Alleviation from electrical harmonics
• Stable system pressure
• Consistent product quality
• Reduced system air leaks
• Reduced storage requirements
• Flexibility for future growth
• Lowest five-year life cycle cost
• Available on models 125 hp to 350 hp

Your Compressed Air System Can Improve Your Bottom Line: 35% Energy Savings in the First Five Years

In just five years, the electrical power cost to operate a standard compressor can be more than six times greater than its purchase price.

<table>
<thead>
<tr>
<th>Standard Compressors</th>
<th>Sullair’s V-200S Compressors</th>
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<tr>
<td><strong>Energy</strong></td>
<td><strong>SAVINGS WITH VARIABLE SPEED DRIVE</strong></td>
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<td>Initial Purchase</td>
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Total Compressor Flexibility

Sullair’s VSD compressors provides the flexibility to vary both capacity and pressure. This flexibility makes it possible to “grow” your air system without adding more compressors.

Variable Speed Drive Is the Superior Alternative to Other Compressor Control Systems.

The chart below is a representation of nominal control systems for generic comparative purposes. A detailed and accurate comparison of specific compressor models is available from your Sullair representative or authorized distributor.

Stable System Pressure Improves the Consistency of Your Process to Reduce Product Rejects

• Lowers air system leaks
• Reduces system storage requirements
• Provides increased energy savings to increase profits

Soft Start is Standard with Unlimited Starts and Stops

• No need for Wye Delta and other soft starters
• No need to control the number of hot or cold starts
• Unlimited starts and stops save electrical costs
• Avoids high electrical current at start-up

VSD Avoids Potential Peak Demand Charges

VSD compressors provide the highest power factor over the entire frequency range, often avoiding utility company penalties.
The Sullair Single-S
LS-200S, LS-25S, VCC-20

Superior Package Design
- SAE O-ring fittings are standard
- Number of fittings are reduced
- Designed for continuous duty
- Aftercooler, moisture separator and electric drain
- Air-cooled or water-cooled models are available

Sullair’s Variable Capacity
- Superior alternative to other compressor control systems
- Lowest five-year life cycle cost
- Stable system pressure
- Flexibility for future growth

Flange-Mounted Motor and Air End*
- Up to 5% energy savings over belt drive
- Eliminates maintenance expense associated with V-belts
- NEMA frame design
- Provides positive alignment
- Optimizes bearing life of air end and motor
  *Not standard on LS-25S.

Premium Efficient Motor
- Improved energy conservation
- Five-year warranty
- Direct coupled design for extended bearing life
- 250,000-hour insulation life
- NEMA frame design

The Variable Capacity Sullair Air End
- Features Sullair air end and spiral valve
- Lowers part-load operating costs
- Reduces cycling duty on package components

Sullair Supervisor™ Controller
- Micro-processor controller has simple graphic illustration of monitored functions and an easy to read keypad
- Constant readout of pressure and temperature
- On-demand readout of all operating and maintenance conditions
- Monitors key functions and safety shutdowns
- Power failure auto re-start
- Dual control, provides automatic start-stop operation
- Lead-lag and sequencing with multiple compressors

- Service and preventive maintenance schedule
- “Run”, “Loaded” and “Consumable Parts” hours
- Fault history with sensor readings
- “Help” key provides built-in troubleshooting
- Remote monitoring capability

Open and enclosed models available.
Stage Compressors
0S, VCC-250S and V-200S

Cooling
- Air-cooled units have updraft coolers for ease of installation and heat recovery capabilities
- Water-cooled units use shell and tube heat exchanger

Multi-Stage Air-Fluid Separation
- Dual nested Optimizer™ separator elements reduce fluid carry-over to less than 1 ppm as measured prior to aftercooler
- Reduced carryover lowers make-up fluid costs
- Pleated Optimizer™ elements lower initial pressure drop for greater efficiency and extend life of the elements

Optimalair™ Inlet Filter
- Includes remote air intake connection
- Provides finest inlet filtration in the industry (0.4 microns using Fine Fiber Technology)
- Protects premature failure of key components
- Extends separator, fluid filter and fluid life

Fiberglass Fluid Filter
- Aircraft-quality media provides better filtration
- Up to 20% more efficient than conventional paper elements
- Lengthens the life of the compressor

Select One of These Long-Life Fluids...
Sullube™ is Standard Factory Fill
- Biodegradable
- One-year or 8000-hour service life
- Reduces fluid disposal costs

24KT™ is Optional
- Eliminates annual fluid changes
- Eliminates annual fluid disposal costs

Free Fluid Sampling and Analysis Program with Either Fluid.

Sullair’s Versatile Control System
- Matches output to demand
- Stabilizes system pressure
- Minimizes need for an air receiver
- Extends package life

Bearing Fluid Reservoirs
- Ensure fluid is available at start-up
- Extends air end life
Sullair recognizes that the requirements for air quality vary according to each compressed air application. For this reason, Sullair provides compressed air systems that achieve two distinct levels of air quality and a guarantee for each.

**Sullair Stationary Air Power System**

The Sullair Stationary Air Power System matches a Sullair compressor, a Sullair dryer and Sullair filters. Sullair assures that its System will meet specific performance levels throughout its operational life. We offer a one-year test/review period, backed by a purchase refund guarantee, to verify the performance of the Sullair System.

**Select the System**

Select the air quality level to meet your plant air or process requirements. You can be assured that the quality of air from the Sullair System you specify will remain consistent for the life of the equipment. Sullair guarantees it... and that’s as good as gold.

**The Sullair Oil-Free Air Quality Guarantee**

The System consists of a Sullair compressor, Sullair dryer, and Sullair filters. The compressed air from this system contains particulates no larger than .01 micron, including coalesced liquid water and lubricants.

Maximum remaining oil aerosol content is 0.01 parts per million by weight (ppm/w) @ 70°F, including oil vapor. The air from this Sullair System meets the most stringent ISO standard (ISO 8573.1, Class 1 for oil vapor and Class 2 for particulate) for air quality.

**The Sullair Critical Air Quality Guarantee**

The compressed air from this Sullair System exceeds the ISO standard (ISO 8573.1, Class 1 for oil vapor and Class 2 for particulate). The System includes a Sullair compressor, Sullair dryer, and Sullair filters. The odor-free compressed air from this system contains particulates no larger than 0.01 micron, including water and oil aerosol content of 0.01 parts per million by weight (ppm/w) @ 70°F. The remaining oil vapor content is less than 0.003 ppm/w.

To get more information on Sullair’s Air Quality Guarantee, please contact your Sullair distributor.

These Systems are not intended to remove carbon monoxide, methyl isocyanate or other noxious, corrosive or toxic gases, vapors or fumes. The System does not provide breathing air.

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**Air Quality is One of the Best in the Industry**

**Lowest Fluid Carryover**

While others claim a low carryover of 5 ppm or more, Sullair’s single-stage compressors offer a carryover rate less than 1 ppm— the lowest in the industry. Sullair’s MSS, Multi-Stage Separation, uses a sump design, which allows use of oversized dual nested separators.

**Sullair Optimizer™ Air-Fluid Separator**

A high efficiency separator that will pay for itself (during the life of the separator) in reduced compressor fluid carryover and electrical power consumption.
Technical Specifications:
LS-200S and LS-25S 60 Hz

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VCC-200S and VCC-25S 60 Hz

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V-200S 60 Hz

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<tr>
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Capacity per CAGI / PNEUROP PN2CPTC2 (Annex C to ISO 1217)
Data subject to change without notice.
24KT available for 100 and 125 psig offerings.
Sullair Supplies Compressed Air System

For the lowest total cost of ownership, Sullair provides an air system designed to lower operating cost, improve reliability and maximize return on investment.

Sullair offers air systems to help compressed air users reduce their energy costs and improve their productivity by analyzing, managing and controlling total compressed air systems. Information on the compressed air system tailored to your specific needs can be obtained by contacting your local Sullair Distributor. To acquire local distributor contact information visit us online at www.sullair.com or call 219-879-5451.

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