

# SULLAIR OIL FREE

## Rotary Screw Air Compressors

100–200 hp | 75–149 kW



 **SULLAIR**<sup>®</sup>  
*Always air. Always there.*<sup>®</sup>

# SULLAIR AN INDUSTRY LEADER

## LEADERSHIP

Since 1965, Sullair has been recognized worldwide as an innovator and leader in rotary screw compression and vacuum technology. Sullair designs and manufactures its own rotors and air end assemblies. The award-winning rotary screw design sets the industry standard and delivers the quality and reliability you expect from a leader.

## TECHNOLOGY

Using 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.

## COMMITMENT TO INNOVATION

Underlying Sullair leadership is a dedication to excellence and a commitment to innovation. We are constantly exploring new ideas and seeking new ways to meet and exceed the industry's need for increasingly energy efficient compressed air and vacuum solutions.



# OIL FREE COMPRESSION AND ROTARY SCREW DEPENDABILITY

## Sullair Reliability

The Sullair reputation for designing and delivering quality products lives on through the DS oil free offering. The DS has a proven track record of installations in various industries that require a reliable machine that can deliver quality oil free air for the most critical processes.

## Oil Free Compression

The Sullair oil free compressor provides critical quality oil free air for sensitive applications like food and beverage, pharmaceutical, chemical, textile and electronics production.

## No Contaminating Particles

The industry leading Optimalair® inlet air filter exclusively from Sullair prevents contamination from entering the machine and the contamination is avoided internally by utilizing timing gears which prevents rotor contact. By preventing rotor contact the risk of creating particles that could enter the air stream is completely avoided.

## Flexible Product Range

The DS oil free compressors comprise a range of flows and pressures from 100 to 200 hp (75 to 150 kW). This two-stage rotary screw design features intercooling between the stages for increased operating efficiency. Air- or water-cooled models are available.

## Sullair Keeps It Simple

The rotary screw mechanism is the simplest method of compressing air. In developing the DS Series, Sullair utilized over 40 years of experience and expertise in lubricated rotary screws and applied it to oil free compressors. The result is a compressor that's easy to operate and maintain, because Sullair rotary screw simplicity is built in.



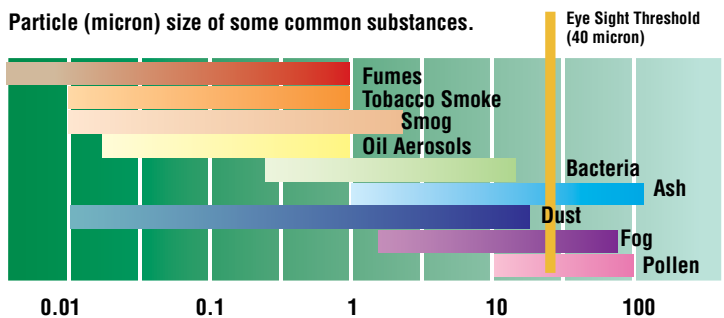
**Class 0 Oil Free Air** — For applications in which air purity is essential, including pharmaceuticals, food and beverages, electronics, automotive painting, and textiles.

Under the ISO 8573-1 Class Zero classification, Sullair compressors are designed to operate oil free, minimizing the risk of contaminating the process air or gas.



## Air Quality Standards ISO 8573-1 Classes

Particle (micron) size of some common substances.



Class	Solid Particle Maximum number of particles per m <sup>3</sup>			Pressure Dew Point °F (°C)	Oil (incl. vapor) mg/m <sup>3</sup>
	0.1–0.5 micron	0.5–1.0 micron	1.0–5.0 micron		
0	As specified by the end-user or manufacturer, and more stringent than Class 1				
1	≤ 20,000	≤ 400	≤ 10	≤ -94° (-70°)	0.01
2	≤ 400,000	≤ 6,000	≤ 100	≤ -40° (-40°)	0.10
3	—	≤ 90,000	≤ 1,000	≤ -4° (-20°)	1.00
4	—	—	≤ 10,000	≤ 37.4° (3°)	5.00
5	—	—	≤ 100,000	≤ 44.6° (7°)	—
6	—	—	—	≤ 50° (10°)	—

# FEATURES AND BENEFITS

## Separate, Easy-to-Adjust Valves

The DS oil free compressor has separate inlet and blow down valves of simple, rugged design for easy adjustment and maintenance. These individual valves, unlike some integral designs, do not use critical pressure balancing holes that could clog and malfunction.

## Reliable Rotary Screw Air End

The rotor assembly is the heart of any screw compressor. For its screw compressors, Sullair has designed extremely heavy-duty rotors. Using bearings with an L10 life of over 100,000 hours, the Sullair DS compressor is one of the most rugged oil free designs.

## Choice of Air-Cooled or Water-Cooled Models

The DS oil free compressor is available with either air-cooling or water-cooling. The air-cooled model used high efficiency modular fin and tube aluminum heat exchangers. If damaged, each section can be replaced individually to reduce maintenance costs. The water-cooled model uses non-proprietary shell and tube heat exchangers, which are interchangeable on the first and second stage. Stainless steel cooler tubes are standard for greater corrosion resistance.

## Phase Monitor

Helps protect your compressor motor from damage caused by electrical problems including voltage imbalance, phase loss and phase reversal.

## Three methods of oil free protection

- Labyrinth seals
- Carbon ring seals
- Buffer air system

## Minimal Maintenance

- No interim intervention required
- Annual maintenance only

## All Stainless Steel Control Tubing

- Highly resistant to corrosion
- Extends component life

## Sullair Optimalair® Air Filter

- Provides the finest inlet filtration in the industry (.4 micron)
- Keeps intake clean and extends life of internal components
- Reduces pressure drop during operating life, resulting in energy savings



### 1. Three Stage Intake Filter

- Provides superior filtration
- 99.9% efficient per SAE J726

### 2. Premium Efficiency Motor

- Exceeds EPACT (Energy Policy Act) 1997 standard
- Reduces electrical costs



### 3. Enclosure with Removable Panels

- Quick-release panels for easy maintenance
- Multi-layer foam insulation reduces noise levels to 78 dBA
- Enhanced package appearance

### 4. The Two-Stage Air End

- AGMA 12 precision drive gears are designed to extend air end life
- Carbon ring seals ensure sealing without damage to the shaft
- Sullair's exclusive five-year air end warranty

### 5. NEMA 4 Panel\*

- Extends component life by protecting from surrounding elements like water and debris

\* NEMA 12 on VSD

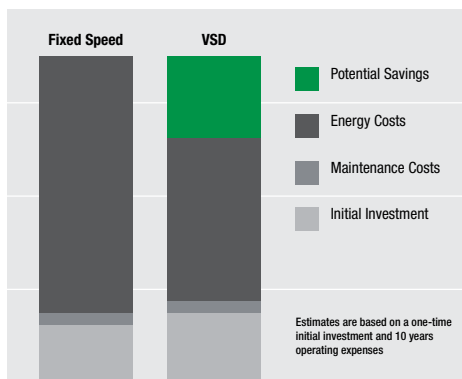
### 6. First- and Second-Stage Silencer/Dampers

- Reduce noise and flow pulsations
- Protect compressor and system

# SULLAIR VSD AIR COMPRESSORS

## Sullair compressors with VSD provide:

- Excellent energy savings
- Relief from potential peak demand charges
- Possible utility company rebates
- Stable system pressure
- Consistent product quality
- Reduced system air leaks
- Reduced storage requirements
- Flexibility for future growth
- Lowest life-cycle cost



## Your Compressed Air System Can Improve Your Bottom Line

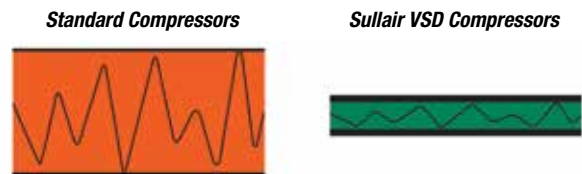
In just ten years, the electrical power cost to operate a standard compressor can be more than six times greater than its purchase price.

## Total Compressor Flexibility

Sullair 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

The chart above 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



## Sullair Supervisor Microprocessor

This state-of-the-art microprocessor has a simple graphical illustration of the monitored functions and an easy-to-use keypad.

- Precisely monitors load/unload control
- Phase monitor relay protects the unit from poor quality electricity
- Power failure restart mechanism will restart the machine in the event of a power failure or can be disabled
- Choice of languages and numerical units. Select English, Spanish, German, French or Italian languages and metric or English units
- Malfunction alert: Operator is alerted to malfunction by an alarm and flashing indicators, showing first out indication of the initial problem
- Stop/Reset key: This built-in safeguard prevents accidental starting
- Two-way communications: RS 485 communications port allows for remote input of desired operating parameters and output of actual readings
- Built-in sequencing capabilities for automatic load sharing
- Accurately monitors and controls the compressor
- Constantly displays essential functions

# TECHNICAL SPECIFICATIONS

60HZ MOTOR DA-13	MOTOR		AIR-COOLED FULL-LOAD CAPACITY**						WEIGHT		DISCHARGE CONNECT	dBA†	MOISTURE DRAIN CONNECT
	Model	hp	kW	100 PSI acfm	6.9 bar m³/min	125 PSI acfm	8.6 bar m³/min	150 PSI acfm	10.3 bar m³/min	lbs			
DA-13 100	100	75	430	12.2	428	12.1	-	-	6520	2960	2" NPT	78	¼" NPT
DA-13 125	125	93	518	14.6	517	14.6	427	12.1	6760	3070	2" NPT	78	¼" NPT
DA-13 150	150	112	641	18.1	640	18.1	517	14.6	6890	3130	2" NPT	78	¼" NPT
DA-13 200	200	149	785	22.2	785	22.2	639	18.1	7140	3240	2" NPT	78	¼" NPT

60HZ MOTOR DA-13	MOTOR		WATER-COOLED FULL-LOAD CAPACITY**						WEIGHT		DISCHARGE CONNECT	dBA†	MOISTURE DRAIN CONNECT
	Model	hp	kW	100 PSI acfm	6.9 bar m³/min	125 PSI acfm	8.6 bar m³/min	150 PSI acfm	10.3 bar m³/min	lbs			
DW-13 100	100	75	448	12.7	447	12.7	-	-	6640	3010	2" NPT	78	¼" NPT
DW-13 125	125	93	534	15.1	533	15.1	446	12.6	6880	3120	2" NPT	78	¼" NPT
DW-13 150	150	112	655	18.5	655	18.5	532	15.1	7010	3180	2" NPT	78	¼" NPT
DW-13 200	200	149	801	22.7	801	22.7	654	18.5	7260	3290	2" NPT	78	¼" NPT

DIMENSIONS	LENGTH		WIDTH		HEIGHT	
	in	mm	in	mm	in	mm
Model*						
DA-13 100, DA-13 125, DA-13 150, DA-13, 200	136	3460	65	1650	80	2020

\* Consult factory for VSD Packages

\*\* Capacity per CAGI / PNEUROP PN2CPTC2 (Annex C to ISO 1217)

† dBA at 1 meter





For more information, contact your local authorized Sullair distributor.