

# Air Solutions Are Our Core Business

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 offer air system to help compressed air users reduce their energy costs and improve their productivity by analyzing, managing and controlling total compressed air system. 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, please visit the following website or call us directly.



**美国寿力**

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# Sullair Rotary Screw Air Compressors 90-450kW



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# The only manufactory focus on screw air compressors

Since 1965, Sullair has been an innovator and leader in rotary screw compressors and vacuum technology. With more than 40 years experience in this area, Sullair has been investing and innovating in all relating products. Utilizing the most modern technology, equipment and advanced manufacturing process, Sullair provides global customers with high quality air compressors and vacuum equipments, continuously meeting customer's various requirements.

Sullair products are known for their exclusive design, outstanding craftsmanship and superior quality. Sullair specialists provide you with LS series 90-450 air compressors with excellent structure, easy operation and remarkable performance by continuous optimized design, new technology, proven reliability, stability and technological parameters of Sullair products. In fact, LS series air compressors has been setting industry standard in many fields.



## Energy Saving Certification

Most energy efficiency level of Sullair LS series air compressors can meet requirement of national energy saving evaluation values, some models achieved national top standard of energy efficiency.

## Sullair with you, more than Air Compressor

What you get in Sullair is not only the air compressor, but also the world advanced screw technology and global service.

Sullair Company provides products and service of high quality for various industries such as electronics, textile, food, construction, mining, energy etc.

International service network of Sullair includes branch company, authorized agents and distributors all over the world, who provide perfect service for customers in every corner of the world.



# Distinctive advantage of LS series air compressor

## Standard configuration of LS series air compressor

- High-quality rotary screw assembly
- Tapered roller bearing used for exhaust to extend airtend life
- Efficient and high-capacity moisture separator with automatic drainage function
- NEMA 4 efficient motor, excellent design for motor cooling
- High capacity, low pressure drop and high precision air filter
- SRF 1/4000 lubricat is suitable for bad working condition
- Single-stage oil separator, reduce fluid carryover to a maximum of 3ppm
- Loading and unloading capacity control function
- Sequence control for several air compressors
- Excellent micro-computer controller

## Standard option of LS series air compressor

- 8000 hours, two-stage oil separator
- Sullair Sullube lubricating oil ok+5 years warranty of airtend
- Modulation valve
- VCC built-in, range of capacity control max to 40% of rated capacity
- VSD built-in, range of capacity control max to 30% of rated capacity
- Both VCC & VSD built-in, range of capacity control max to 20% of rated capacity
- IFC
- Control system of EO series
- Heat recovery device built-in

## Sullair Sullube Lubricant + 5-year warranty of airtend

Compared with normal mineral lubricant short service life and environment pollution caused by condensatewater mineral oil containing discharged, Sullair provide Sullube fluid with 8000 hours service life, which is 8 times of traditional mineral lubricant. And condensate contained fluid can be biodegradable and directly discharged. Sullair Sullube fluid also has some other advantages including high-flash point, non-adhesive, anti-corrosion, non-toxic, high thermal conductivity and etc. If choosing Sullair Sullube fluid and operate according to Sullair relevant instruction, Sullair will provide 5-year warranty for airtend.



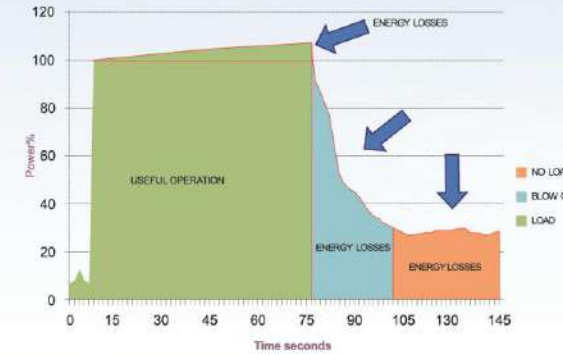
5 years warranty for rotary screw assembly

## Operate according to Sullair relevant instruction, Sullair commitment for rotary screw assembly:

- Non un-artificial quality issue within 5 years
- Non-change of relevant technical parameters within 5 years

## Air inlet valve

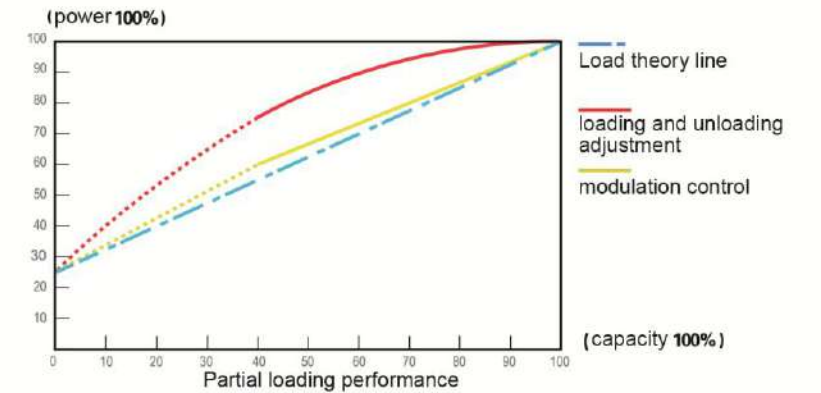
Traditional loading and unloading adjustment mode will make energy loss. If customer uses less than rated air capacity during the air compressor loading process, it will make energy loss before reaching unloading pressure. Moreover, air compressor will make large amount of energy loss in unloading and no-load process.



## Reasons for energy loss of loading and unloading adjustment

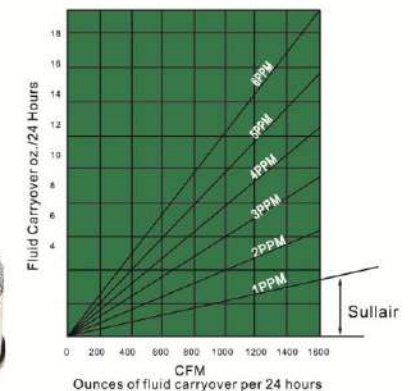
- pressure difference of unloading
- power fall delay after unloading
- unloading power (maintaining the lowest tank pressure)

Sullair modulation valve can reduce frequency of loading and unloading and will adjust the inlet when actual air consumption between 40% ~ 100% to meet customer's need better and save energy. At meantime, it also can reduce loading impact and extend working life.



## Two-stage oil separator

Traditional oil separator is single filter, fluid carryover less than 3PPM with short working life. Sullair can provide oil separator which used two-stage nested separation and professional folding filter material to make filter area double increased, therefore reduce fluid carryover to a maximum of 2ppm and working life is over 8000 hours. So Sullair could provide customers with cleaner compressed air and at the same time, reducing the loading of the post-processing equipment.



# LS series air compressor

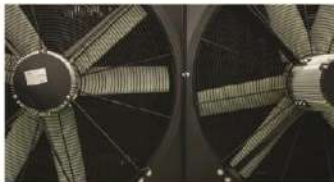
## 1 Air end

Sullair rotary screw using high precision rotor with matching process, through rotate of rabbet joint line of positive rotor's gear root and pitch line of negative rotor's gear top to make oil slick quickly and reduce internal leak. At meantime, Sullair choose high quality bearing with patented design, low noise and design life over 100,000 hours, the design for bearing lubricant storage guaranteed lubricant at start moment, reduce dry friction efficiently and extend working life of airend.



## 2 Cooling fan system

Cooling fan system is two efficient and low noise fans which are driven by two energy efficient motors. Non-welded connection of Independent oil cooler and after cooler can effectively avoid contact surface full caused by thermal expansion coefficient difference, and can also avoid cooler damaged and oil leak. The large capacity design for cooler ensured compressor operate stably. Blow and clean hole reserved by the two sides of cooler are easy for maintenance and repair. Every baffle has special sound-absorbing sponge to reduce noise.



## 3 Pipe connection

All pipes connection is used efficient O-ring seal.

## 4 Moisture separator

Moisture separator with automatic drain. Large capacity and good separation effect



## 5 Thermal valve and oil filter base

Integrated design for thermal valve and oil filter. Environmental filter material which filtering accuracy over 99.5%. Oil filter base has pressure difference alert function.



## 6 Tank

Structure of oil and air separator in upper cyclone separation can efficiently enhance pre-separation effect. Humanity design for end cover rotate of air-oil separator can make maintenance more, just fastening bolt and rotate the plant to other side to replace the filter element.



## 7 Air filter

The design with high precision of air filter is used pre-separation structure. Filter element with high capacity and low pressure drop. Reduce the energy consumption of compressor and at meantime ensure the stable operation of compressor under bad working condition efficiently.



## 8 Air inlet valve

The design with air inlet butterfly valve and modulation valve which have automatic check back and control function can reduce frequency of loading/unloading and impact of system loading efficiently to meet customer need better.



## 9 Motor

High efficiently motor. F class insulation, B level temperature rise. Standard configuration with thermistor can ensure circuit stability efficiently.



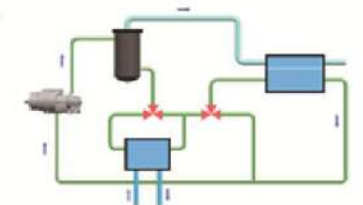
## 10 Controller panel

Human nature parameters adjusting function on the actual situation of customer. Color large screen with real-time clock and power time display. 19 protective function including motor current detection, generatrix voltage detection and phase sequence detection. 15 per-alert including air filter blocking and oil filter blocking.



## 11 Heat recovery system

Options on heat recovery system built-in, the recovery heat can be used for pre-heating of painting, boiler and process, and also can be used for providing hot water of employee shower.



Elastic joint with protective cover can effectively reduce and absorb vibration transfer between air end and motor. Structure design of radial disassembling and assembling matched with adapter tube achieves centering permanently which brings great convenience to airend.



# Further energy saving solutions

## Sullair LS series VCC air compressor

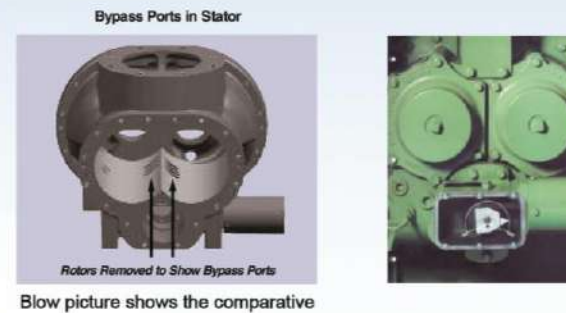
### Sullair VCC control technology

Compared with traditional air inlet control, Sullair patented technology spiral valve control is the control by compression chamber volume changed.

Once customers use is less than the rated capacity, spiral valve starting action to reduce compression chamber volume and saving the energy.

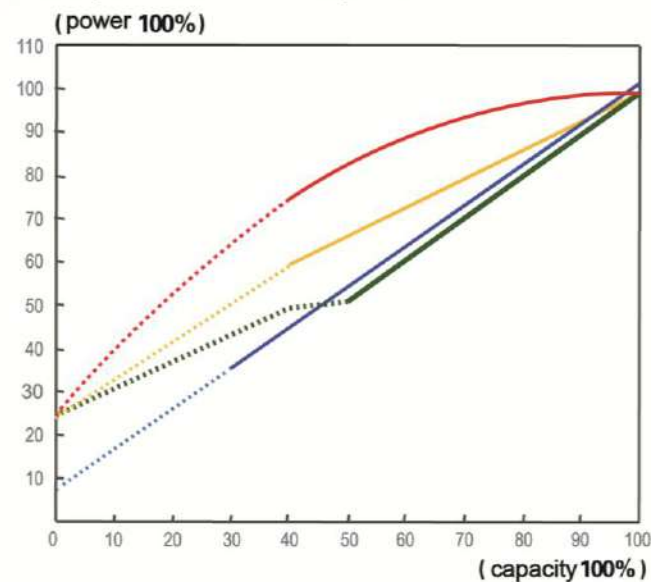
The less air customer used, the greater opening of spiral valve is. Spiral valve control range is 100% -40% of rated air capacity, it is Sullair unique option on energy saving.

Compared with other air compressor control mode, VCC technology has incomparable advantages on energy saving.



Blow picture shows the comparative

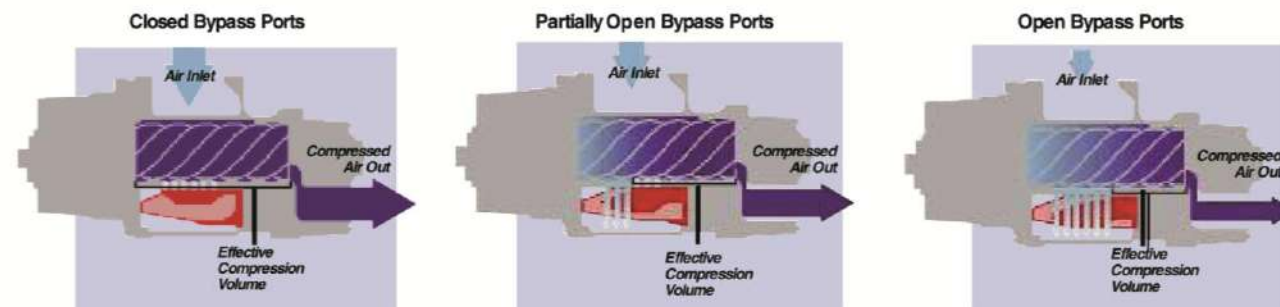
Below picture shows the comparative



### Advantage of VCC control system:

1. Perfect match with customer air consumption, realized exhaust infinitely variable control between 40% to 100%
2. Saving energy. Maximum energy saving 17% when partial loading.
3. Provide compressed air with relatively stable pressure

- Loading/unloading control
- Modulation valve
- VCC technology
- VSD technology



## Sullair LS series VSD control air compressor

### Converter

Optimal design of air compressor performance will make maintenance more convenience.

Forced cooling and coating circuit board can enhance stability significantly and will also extend service life.

### Sullair high efficiency frequency conversion motor

Special electromagnetic design can effective control the motor damage caused by high harmonics and improve the low frequency output torque of motor.

Special frequency conversion motor varnished wire can strengthen between ground insulation and turn-to-turn insulation, especially to enhance the resistance impact voltage capability of insulation.

Special cooling process ensured motor has great self-cooling capacity when operation under low frequency, it can also help avoid low frequency covibration efficiently.



### Frequency conversion soft start, no limitation on start and stop

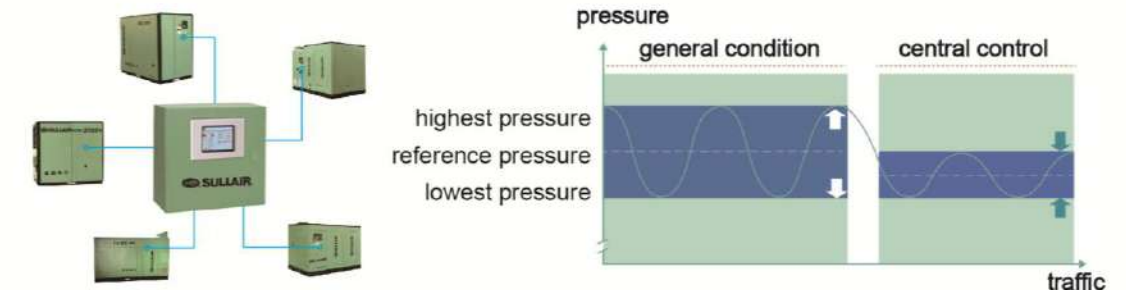
No need start delta and other start, no need limit to the number of hot and cold start, avoid impact current generated by directly start and extend machine service life.

### Sullair IFC

IFC Installed at the inlet of the air pipe, accurate and sensitive control of compressed air flow output through constant pressure air supply (+-1PSI), eliminate pressure waste to reduce flow consumption and compressor air produce working, and realized energy saving. At meantime, optimize production process to improve manufacture quality.

### Sullair EO optimization system

Efficient air compressor management is the fast way to realize energy saving. Working pressure reduced 1bar will achieve direct energy saving 7%, at the same time, reduced leaking will also energy saving 3%. Sullair EO central controller series will make our customer connect all compressor and dryer to reduce the whole pressure area, no need higher working pressure and can be optimized compressor assembly at any time.



# Technical Specification

## LS 90-450KW performance parameter

Model	Motor		Maximum discharge pressure					Weight kg		Discharge connection
	HP	kW	5.5bar	7.5bar	8.5bar	10.5bar	13.0bar	WC	AC	
			(m <sup>3</sup> /min* (50Hz))							
LS20-125	125	-	20.0	16.9	15.2	14.2	12.9	2540	2540	DN50
LS20-150	150	-	-	21.1	19.6	16.3	14.6	2540	2540	DN50
LS20S-175	175	-	27.9	24.7	23.2	19.5	16.6	3170	3170	DN65
LS20S-200	200	-	-	27.8	26.0	22.8	18.7	3170	3170	DN65
LS160*	-	160	35.5	30.2	28.4	26.0	-	4400	5000	DN100
LS200*	-	200	41.8	36.4	33.6	30.1	26.0	4600	5160	DN100
LS250*	-	250	-	43.5	41.6	38.3	32.8	4850	5430	DN100
LS280*	-	280	-	50.1	49.5	43.0	38.0	5000	5500	DN100
LS25S-350	350	-	-	48.0	44.6	41.0	33.3	4890	5470	DN100
LS32-350	350	-	59.0	-	-	-	-	10000	-	DN100
LS32-400	400	-	66.0	58.5	53.5	46.8	39.8	10000	-	DN100
LS32-450	450	-	-	65.6	62.6	52.4	46.1	10000	-	DN125
LS32S-450	450	-	74.2	-	-	-	-	10500	-	DN125
LS32-500	500	-	85.6	74.0	70.2	61.7	53.6	10500	-	DN125
LS32-600	600	-	-	-	80.1	66.0	56.8	10500	-	DN125

\*LS160-280 can provide VSD Frequency conversion compressor

## Dimension and connection

Model	Cooling method	Length mm	Width mm	Height mm	Pipe Connection
LS20-125,150	AC/WC	2540	1524	1730	G1-1/4
LS20-125,150VSD	AC/WC	2990	1524	2030	G1-1/4
LS20S-175,200	AC/WC	2650	1600	1800	G1-1/2
LS20-175,200 VSD	AC/WC	3150	1600	2100	G1-1/2
LS160,200,20,280,LS25S-350	WC	3300	1600	2150	Rc2"
LS160,200,250,280,LS25S-350 VSD	WC	3300	2200	2400	Rc2"
LS160,200,250,280,LS25S-350	AC	3300	2200	2320	-
LS160,200,250,280,LD25S-350 VSD	AC	3300	2200	2400	-
LS32-400,450	WC	4200	2210	2150	G2-1/2
LS32-400,450	AC	4200	2210	2390	-
LS32S-500,600	WC	4500	2210	2200	G2-1/2

1. LS25S series with 380v motor, LS32/LS32S series with 6000v motor
2. Capacity is measured under the rated discharge pressure according to the GB3853 (same as ISO 1217, attached C)
3. All types of high voltage switch starter should be disposed separately.

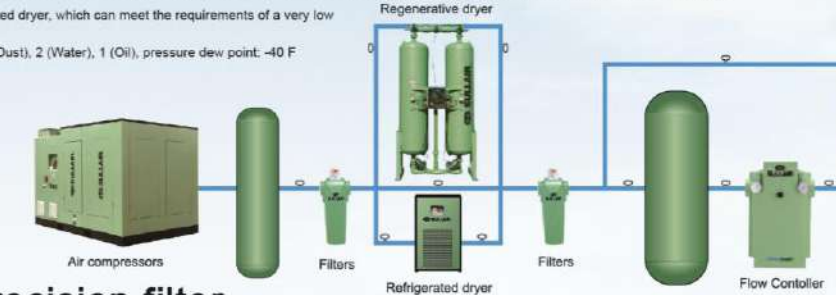
## Sullair compressed air system

Sullair compressed air system including: air compressor, refrigerated dryer, adsorption dryer, compressed air filter and IFC controller.

According to different requirement of compressed air, Sullair can provide different solution.

Sullair compressed air can meet stringent air quality standard ISO8573.1:2001, compressed air is critical to meet the needs of the customer premises while consuming minimal energy.

Use regenerative refrigerated dryer, which can meet the requirements of a very low dew point air quality.  
E.g. ISO8537.1 LEVEL 1 (Dust), 2 (Water), 1 (Oil), pressure dew point: -40 F



## Sullair precision filter

Precision compressed air filter is after process filter which is US Sullair according to market demand, specialized developed and manufactured

Model				Pipe diameter (NPT) Standard taper pipe thread	Capacity m <sup>3</sup> /min	Dimension (mm)						Weight kg
Type	Description	Micron rating	Oil carryover ppm(w)			A	B	C	D	E	F	
SCF	General Converged	1	0.05	1-1/2"	9.6	170	433	383	100			5.1
SCH	Efficient Converged	0.01	0.01	2"	13.3	170	524.5	474.5	100			7
SCC	Efficient activated carbon	—	0.003	2"	19.8	170	525	475	100			7
SCR	General dust	1	—	3"	25.8	205	642	582	100			11.1
SCHR	Efficient dust	0.01	—	3"	37.3	205	832	772	100			13.9
CPF,CPH,CPC Flange filter												
				DN100	48	100FLG	450	1140	170	650	201	94
				DN100	63	100FLG	450	1140	170	650	201	105

## Sullair refrigerated dryer

Sullair SRC refrigerated dryer is after process dryer which is US Sullair according to market demand, specialized developed and manufactured.

Model	Flow rate m <sup>3</sup> /min	Power Input kW	Connection pipe diameter	Length mm	Width mm	Height mm	Weight kg
SRC-380	10.8	1.62	2"	672	920	1015	140
SRC-530	15	2.05	2"	672	920	1015	144
SRC-710	20	2.23	2"	672	920	1015	150
SRC-990	28	3.75	DN80	1310	1010	1500	420
SRC-1300	35	4.37	DN80	1310	1010	1500	450
SRC-1650	46.2	6.15	DN100	1310	1010	1500	470
SRC-2300	63	8.37	DN100	1810	1010	1500	550
SRC-2700	75	12.16	DN150	1810	1010	1500	580

\* Reference working condition, inlet temperature 42C, ambient temperature 38C, inlet pressure 7bar