

# Air Solutions Are Our Core Business

To help users to bear the lowest procurement cost, Sullair provides a whole set of air system, which is of lower operation cost, high reliability and maximum return on investment.



Sullair offers compressed air systems to help compressed air users reduce operation costs and improve productivity by analyzing, managing and controlling their 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, please visit the following websites or make a phone call.



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# Sullair Rotary Screw Air Compressors 90-450 kW



There is no further notice for alteration of information. 08-02-1211



# The Only Air Compressor Manufacturer to Concentrate Exclusively on Rotary Screw Technology

Since 1965, Sullair keeps leading the technological innovation in the field of screw compressor and vacuum technology. With over 40 years of experience, we conduct a new round innovation in this area. Sullair adopts the most advanced technology, equipments and manufacturing technique and provides customers with the best air compressors and vacuum equipments, meeting customers' strictest requirements. Sullair has the first class design for screw rotor, which leads the industrial trend in this field.

Sullair products are well known for outstanding technology and superior quality. Sullair specialists provide you with the LS series 90-450kW air compressor of simple structure, easy operation and remarkable performance, by optimizing the designs and in the preconditions that astonishing reliability, stability and related performance parameters of Sullair products are ensured. In fact, its design has set up new standard in the industry in various matters.



This product was manufactured to the highest quality standards in an ISO9001 certified system.  
This product was manufactured to the highest quality standards in an ISO14001 certified system.  
This product was manufactured to the highest quality standards in an OHSAS18001 certified system.



## Sullair with You, What You Get Is Not Only Air Compressor

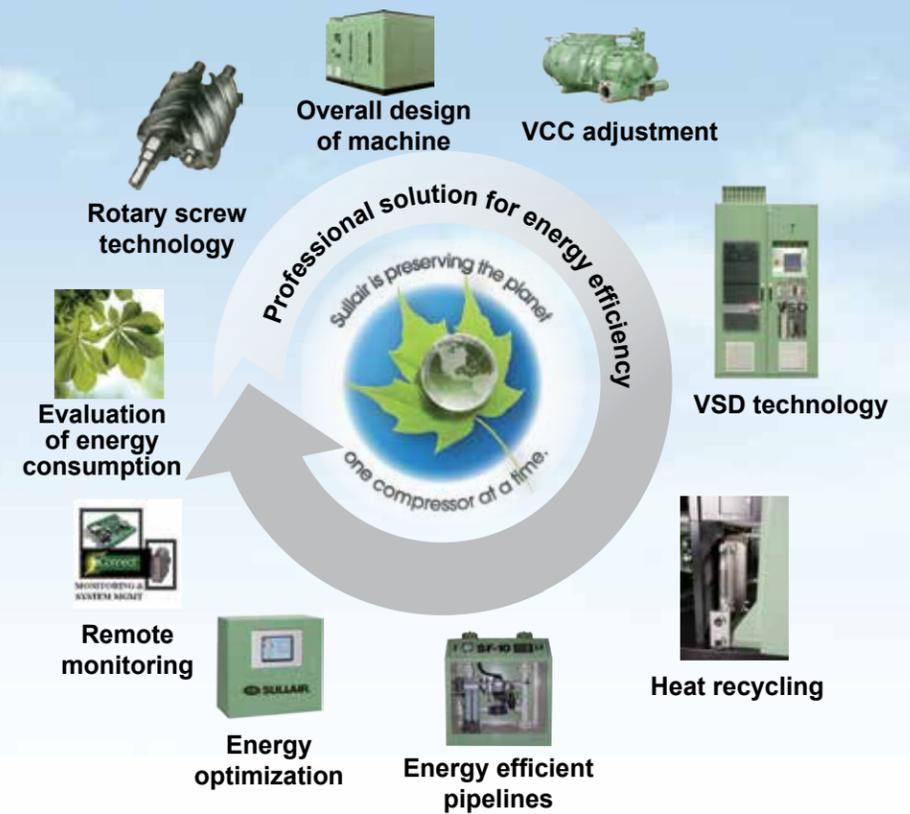
With Sullair compressors, what you purchase is not only the world's leading screw technology but also globalization service. Sullair Company provides products and service with high quality for various manufacturing industries such as electronic, textile, food, construction, mining, energy etc.

The international service network of Sullair includes branches, authorized agents and distributions all over the world. Every day, they provide perfectly satisfactory service for Sullair customers in every corner of the world.



## Energy Efficiency Certification

Energy efficiency indicators of almost 60 LS series air compressors comply with the requirement of national energy efficiency evaluation value. Some machine types reach Class 1 energy efficiency standard and can apply for national energy efficiency subsidy.



# Distinctive Characteristics of LS Series Air Compressor

## Characteristics of Standard Configuration of LS Series Air Compressor

- ✓ High quality screw assembly
- ✓ Outlet end uses tapered roller bearings to prolong air end lifetime
- ✓ Standard configuration of efficient drainage valve with automatic drainage function
- ✓ NEMA 4 efficient motor, superexcellent motor cooling design
- ✓ Large intake capacity of dust, low resistance, high precision air filter
- ✓ SRF 1/4000 compound oil, 4000 hours
- ✓ Single stage oil separation element, oil content in discharged air is less than 3 PPM
- ✓ Adjustment function of loading and unloading
- ✓ No need to have more sequenced multiple compressors for compressor sequencing
- ✓ Luxury micro-computer controller

## Sullair Sullube Fluid + Air End 5 Years Warranty

The lifetime of traditional mineral fluid is short, and the direct discharge of the condensate water containing fluid causes environment pollution. The lifetime of Sullube fluid provided by Sullair reaches 8000 hours which is 8 times of ordinary mineral oil. Condensate water containing fluid can be biodegradable and be discharged directly. And Sullube fluid is with advantages of high flash point, not congealed, corrosion resistant, non-toxic, high heat conducting function etc. Choosing Sullube fluid, you can have five years warranty for air end of screw compressor.



Five years warranty for screw assembly

## Sullair Air Compressor Standard Options

- Two-stage oil separator element
- Sullair SULLUBE lubricating fluid + air end five years' warranty
- Inlet capacity adjustment valve
- Internally installing VCC, the maximum adjustment range of air capacity can reach 50% of rated air capacity
- Internally installing VSD, the maximum adjustment range of air capacity can reach 30% of rated air capacity
- Using both internally installing VCC and VSD at the same time, the maximum adjustment range of air capacity can reach 20% of rated air capacity
- Intelligent flow controller (IFC)
- EO series controlling system
- Internally installing heat recycling device



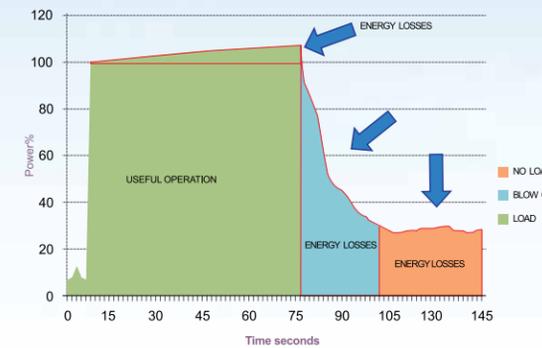
## Operated According to Related Instructions of Sullair, Sullair Promises for Screw Assembly:

No non-human quality problem in five years

Related technological specifications unchanged in five years

## Inlet Capacity Adjustment Valve

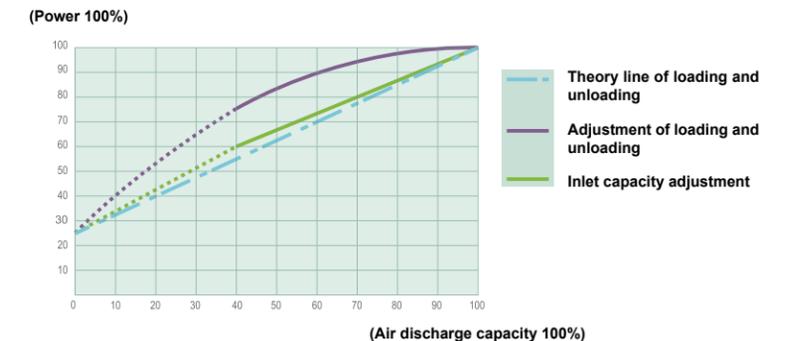
Traditional loading and unloading adjustment method will cause loss of energy consumption. During the loading of air compressor, if the air capacity used by customer is less than rated air capacity, energy consumption will lose when reaching unloading pressure. And during unloading and no-load of air compressor, a large quantity of energy consumption and loss will be caused.



## Reasons for Loss of Energy Consumption of Loading And Unloading Adjustment:

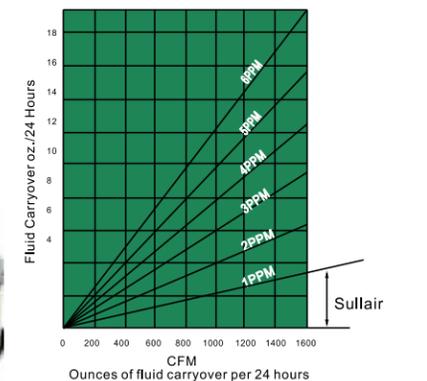
- Unloading pressure difference
- After unloading, the power decrease delay
- Unloading power (maintaining lowest tank pressure)

Inlet capacity adjustment valve provided by Sullair can effectively decrease the times of loading and unloading of air compressor, and adjust inlet capacity within the range between 40% and 100% of actual air capacity used by customer, better meeting customer's requirement for air use and saving energy consumption. And it can effectively decrease load impact and prolong the lifetime.



## Double-Stage Oil Separator Element

Traditional oil/air separator filter elements are all single layer filter, and oil content in discharge air is under 3PPM, generally with shortcomings such as short lifetime etc. Standard option provided by Sullair, i.e. two-stage oil/air separator elements, adopts two-stage nested separation. Its folded professional filter material can make filter area increase manyfold, and oil content in discharge air can reach under 2PPM, with a lifetime of over 8000 hours. When it provides clearer compressed air to customers, it reduces the burden of post-processing equipment.



# LS Series Air Compressor

## 1 Air End

Sullair rotary screw compressor air end adopts high precision rotor which is matching processing. During rotation, oil membrane is rapidly formed between groove at the root of male rotor's tooth and pitch line on the top of female rotor's tooth, so internal leak decreases. Meanwhile high quality bearing is adopted, which is of patent design, low noise and with a lifetime of 100,000 hours. The design of bearing fluid storage tank ensures the lubrication in the instant of start-up so as to effectively reduce dry friction and prolong the lifetime of air end.



## 2 Cooling Fan System

For cooling fan system, two efficient low-noise tube-axial fans are driven by two efficient energy efficient motor. Weldless connection between independent oil cooler and after cooler effectively avoids pulling of contact surface caused by the different coefficients of thermal expansion which may result in phenomena such as damage of cooler and oil leakage, etc. The design of large allowance cooler ensures the stable running of the machine. Purge ports reserved at both sides of the cooler are easy to maintain and service. Sound absorbing sponge of special effect in every baffle further reduces the noise of machine.



## 3 Pipe Connections

The connections of all pipes adopt the most efficient "O" shape ring plane sealing form.

## 4 Drain Valve

Efficient drain valve with automatic drain function is adopted, which is of large capacity and good separation effect.



## 5 Thermal Valve Oil Filter

Thermal valve and oil filter seat adopts assembly design. Environmental-friendly filter material of filter precision higher than 99.5% is chosen for oil filter. Its design adopts the oil filter seat with pressure difference alarming function.



## 6 Oil/air Separator

The structure of oil/air separator with upper cyclone separation effectively enhances the pre-separation effect. The humanized rotation design is adopted for the cap for oil/air separator. The filter element can be replaced only by removing the fastening bolt and rotating the turn table to one side, which makes the maintenance and service easier.



## 7 Air Filter

The air filter is of high precision design with pre-separation structure. The filter element is of large capacity of dust and low initial pressure drop. It not only reduces the energy consumption of the machine but also ensures the stable running of the machine even in the harsh environment.



## 8 Air Inlet Valve

The well-designed air inlet butterfly valve and blow-off valve assembly with automatic non-return and capacity adjustment can effectively reduce the times of loading and unloading and system load impact, better meeting the customers' requirement for air use.



## 9 Motor

The efficient NEMA asynchronous motor with F level insulation and B level temperature rise brings very high transmission efficiency for the machine. The motor of standard configuration with thermistor effectively ensures the stability of circuit.



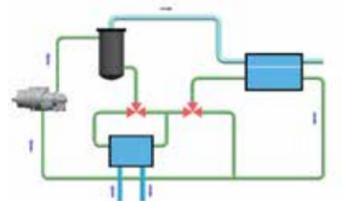
## 10 Controller Panel

With humanized parameter adjustment function according to the actual air use condition of customer. With real-time clock and large color screen of electricity time display. With 19 protection functions such as motor current testing, bus voltage testing, phase sequence testing etc. With 15 alarming functions such as air filter plugging, oil filter plugging etc.



## 11 Heat Recycle System

The internally installed heat recycle system is optional. The heat recycled can be used for preheating of spraying, boiler, process etc. as well as providing hot bath water for the employees.



The design adopts flexible coupling with guard to effectively reduce and absorb the vibration transmission between air end and motor. The structure which can be radial disassembled and installed, matched with the well-designed connecting cylinder can realize permanent centring so it is very easy for maintenance.

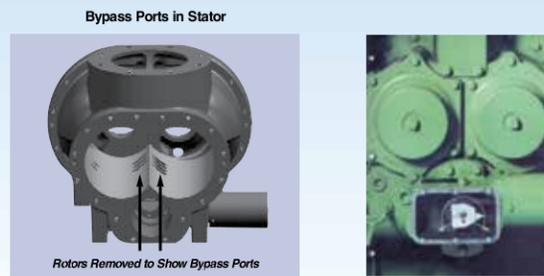


# Further Energy Efficient Resolution

## Sullair LS Series VCC Air Compressor

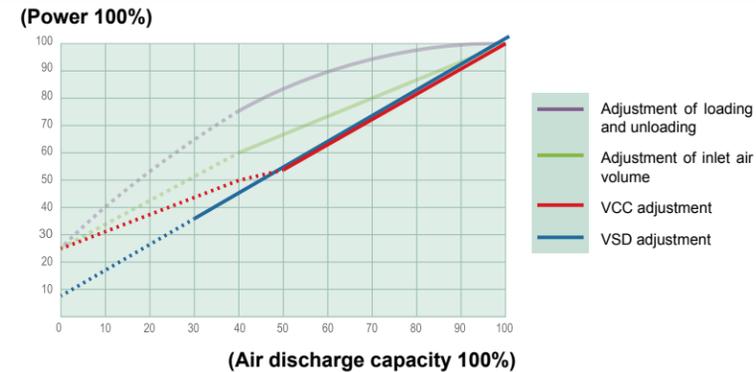
### Sullair VCC Technology

Compared with traditional inlet adjustment, the spiral valve adjustment, a Sullair special patent technology, is the adjustment by air discharge bypass. When the air capacity used by customer is less than rated air discharge capacity of the machine, the spiral valve starts to act so a part of air is discharged to the bypass of the air inlet port for the purpose of energy efficiency. The less the air capacity used by the customer, the larger the openness of the spiral valve. The range of adjusted air capacity of spiral valve is from 100% to 50% of rated air capacity. Spiral valve is a standard optional part of Sullair for energy efficiency.



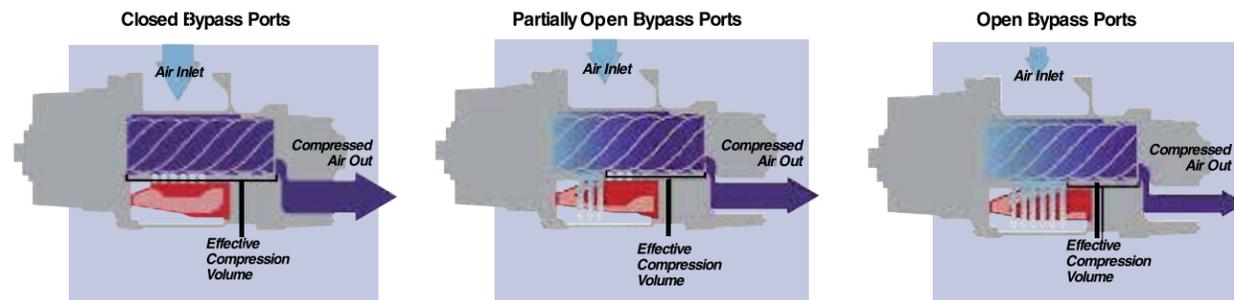
Sketch of bypass port

Compared with other controlling method of air compressor, the varied capacity is of incomparable energy efficient advantage. The below picture is a general comparison.



### Advantages of Sullair Varied Capacity Adjustment System:

1. Correctly matching the requirement of air capacity used by the customer, realizing stepless adjustment of 50% to 100% of air discharge capacity.
2. Saving energy consumption. When partially loaded, the energy saved can reach 17%.
3. Supplying compressed air with relatively stable pressure.



## Sullair LS Series VSD Air Compressor

### VSD Controller

Assembled inside the air compressor with integral design, the modular design of optimized performance of air compressor, easy and friendly to application and maintenance. PID self-tuning function optimizes parameters of controller. Innovative cooling method and circuit board with coating greatly improve the stability and lifetime of VSD controller.

### Sullair Specific Efficiency VSD Motor

Adopting special electromagnetic design, effectively restraining the harm to motor from ultra-harmonics and improving low frequency output torque of motor. Adopting special enameled wire for VSD motor, increasing the strength of insulation against ground and turn-to-turn insulation, greatly improving especially the powers of endurance of insulation against impulse voltage. Adopting special cooling method, ensuring good self-cooling ability of motor even during low speed operation, effectively avoiding low speed resonance.



### VSD Soft-smart, Unlimited Starts and Stops

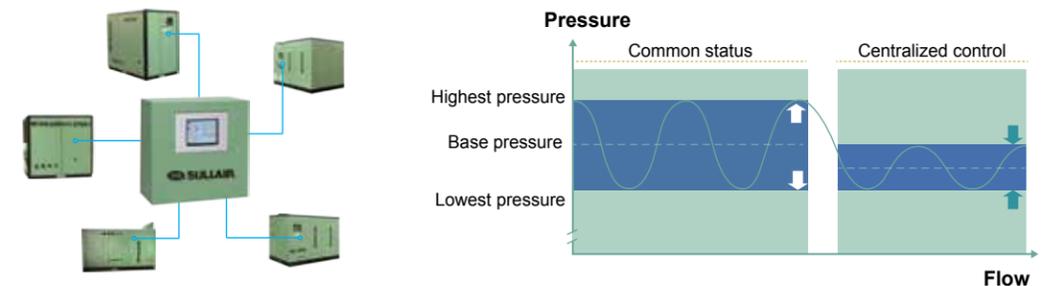
No need for star delta or other starters. No need for control the number of cold or hot starts. Avoid impulse current incurred in direct starting and prolonging the lifetime of equipment.

### Sullair Intelligent Flow Controller (IFC)

Intelligent flow controller (IFC) is installed in front of the pipe inlet of the air use unit, which accurately and sensitively control the transportation of compressed air flow by air supply in the constant pressure ( $\pm 1$ PSI), eliminating the waste of pressure to reduce the consumption of flow and the air production of air compressor to achieve energy efficiency, optimizing the manufacturing process to improve the production quality.

### Sullair EO Energy Optimizing System

Efficient management of air compressor is the fastest way for energy efficiency. Every time the working pressure decreases 1 bar (14.5 psi), the energy directly saved is 7%. Meanwhile 3% of energy is further saved due to the decrease of leakage. Our EO centralized controller series products can let you link all compressors and dryers, reduce the whole pressure band, and optimize the compressor assembly at any time without a higher working pressure.



# Technical Specifications

## LS 90-450 kW Performance Specifications

Model	Motor		Maximum air discharge pressure					Weight kg		Discharge Connection
	HP	kW	5.5bar	7.5bar	8.5bar	10.5bar	13.0bar	Water-cooled	Air-cooled	
			Capacity m <sup>3</sup> /min*							
LS20-125	125	90	21.8	16.9	15.2	14.2	12.9	2540	2540	Rp2
LS20-150	150	110	-	21.1	19.6	16.3	14.6	2540	2540	Rp2
LS20S-175	175	132	27.9	24.7	23.2	19.5	16.6	3170	3170	G2-1/2
LS20S-200	200	150	-	27.8	26.0	22.8	18.7	3170	3170	G2-1/2
LS160*	-	160	33.5	30.2	28.4	-	-	4400	5000	DN100PN16
LS200*	-	200	41.8	36.4	33.6	30.1	26.0	4600	5160	DN100PN16
LS250*	-	250	-	43.5	41.6	38.3	32.8	4850	5430	DN100PN16
LS280*	-	280	-	50.1	49.5	43.0	38.0	5000	5500	DN100PN16
LS32-350	350	280	59.0	-	-	-	-	10000	-	φ114x6*
LS32-400	400	300	66.0	58.5	53.5	46.8	39.8	10000	-	φ114x6*
LS32-450	450	350	-	65.6	62.6	52.4	46.1	10000	-	φ140x6*
LS32S-450	450	350	74.2	-	-	-	-	10500	-	φ140x6*
LS32S-500	500	380	85.6	74.0	70.2	61.7	53.6	10500	-	φ140x6*
LS32S-600	600	450	-	-	80.1	66.0	56.8	10500	-	φ140x6*

\*LS160-280 Series can provide VSD compressor

## Dimension of Equipment

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

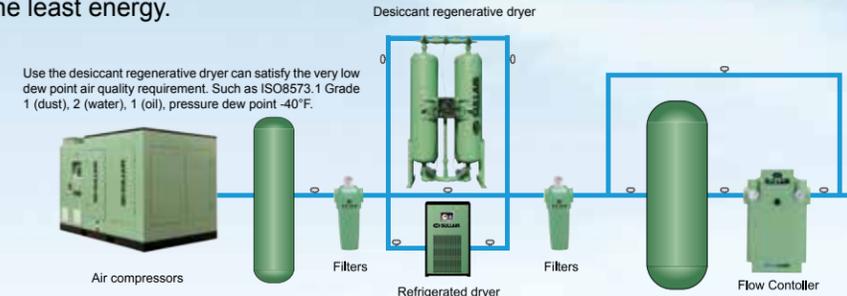
- Notes: 1. LS25S series is standard equipped with 380 V motor. LS32/LS32S series is standard equipped with 6000 V motor.  
 2. Discharge capacity is measured under rated air discharge pressure according to GB3853 (equivalent to ISO1217 Annex C).  
 3. High pressure switch cabinet for all types of machine is provided by customer.

## Sullair Compressed Air System

Sullair compressed air system consists of air compressor, refrigerated dryer, desiccant dryer, air compressor filter and flow controller.

Sullair can provide different configuration solution accordingly to meet different quality requirement of compressed air.

Compressed air from Sullair compressed air system can reach the strict air quality standard specified in ISO8573.1:2001, to meet the demand for compressed air in important places of customers as well as consume the least energy.



## Sullair Precision Filter

Compressed air filter is a compressed air system post-processing filter which is developed, researched and manufactured by Sullair according to the market demand.

Model	Pipe diameter (NPT) Standard taper pipe thread	Flow m <sup>3</sup> /min	Dimension (mm)						Weight kg
			A	B	C	D	E	F	
SCF,SCH,SCC,SCR,SCHR micro-filter									
340	1-1/2"	9.6	170	433	383		100		5.1
465	2"	13.3	170	524.5	474.5		100		7
700	2"	19.8	170	525	475		100		7
910	3"	25.8	205	642	582		100		11.1
1315	3"	37.3	205	832	772		100		13.9
CPF,CPH,CPC flange filter									
1700	DN100	48	100FLG	450	1140	170	650	201	94
2200	DN100	63	100FLG	450	1140	170	650	201	105

## Sullair Refrigerated Dryer

Sullair SRC refrigerated dryer is the post-processing equipment which is developed, researched and manufactured by Sullair according to the market demand.

Model	Flow m <sup>3</sup> /min	Input power kW	Connecting 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

Note: Refer to air inlet temperature is 42°C and air inlet pressure is 7bar under working state.