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**SA++ SERIES TWO STAGE
ROTARY SCREW AIR COMPRESSORS**
90~250kW





Solar photovoltaic industry

Pressure: 0.85MPa
Dew point: $\leq -40^{\circ}\text{C}$
Dust particles: ≤ 4.5 microns



Li-ion battery industry

Pressure: 0.4 ~ 0.7MPa
Dew point: $\leq -40^{\circ}\text{C} \sim -70^{\circ}\text{C}$
Dust particles: ≤ 4.5 microns



Electronic Manufacturing

Pressure: 0.4 ~ 0.7MPa
Dew point: $\leq -40^{\circ}\text{C}$
Dust particles: ≤ 4.5 microns
Oil content: $< 0.01\text{ppm}$

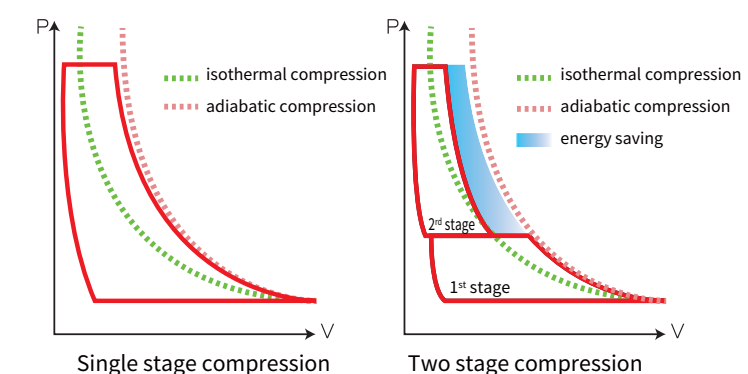


Car manufacturing

Pressure: 0.4 ~ 0.7MPa
Dew point: $\leq -2 \sim 10^{\circ}\text{C}$
 $\leq -40^{\circ}\text{C}$ (Spray painting)
Dust particles: ≤ 4.5 microns
Oil content: $< 0.01\text{ppm}$



Compare to single stage compression, high temperature air compressed at first stage of two stage compressor is cooled down by oil and air being constant compressed to reduce second stage inlet temperature. Entire compression process is close to isothermal compression which reduces energy loss. Pressure ratio for each stage of two stage compression is decreased and leakage between rotor seal is reduced significantly. Outstanding increased air end volumetric efficiency optimized cost-efficiency ratio when operated in continuous full load.



SA++series More outstanding two-stage compression



Efficiency upgrade

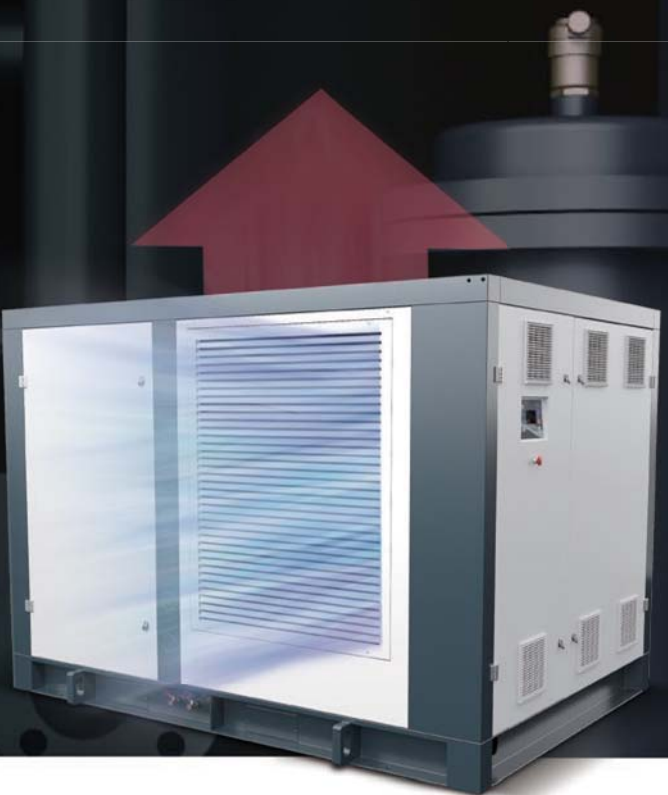
The design of the new rotor profile comprehensively improves efficiency.
The coaxial design of the body motor ensures higher transmission efficiency.
Air cooled oil cooled separation design for higher exhaust efficiency.



Energy-efficient two stage compression air end

Unique cooling flow field

- Air-cooled models use centrifugal fan which direct cooler air from external to cool cooler. Hot air is exhausted from top of assembly directly. Meanwhile suction hole of centrifugal air blower located inside machine exhausts hot air directly to keep lower temperature within compressor and reduce operation noise. Only cover removal is needed for cleaning air cooling cooler instead of removing/installing air duct cover.
- Water cooling model features heavy duty cooler with excellent cooling result and is suitable for high temperature environments. Compressed air passed at a time without pressure drop. Water goes inside of tube while air goes outside. Straight tube design is easy to clean.



AIR-END More energy-efficient

- The upgraded design of the rotor profile has improved compression efficiency and optimized the spray design, reducing the resistance of the spray while better utilizing the effectiveness of the coolant, making the compression process closer to isothermal compression. The entire air compressor unit has a lower specific power value.
- Cancel the traditional coupling design and adopt a coaxial design for the body motor, eliminating transmission losses and making the motor and host seamlessly integrated, making it more sturdy and reliable.



Independent design of air aftercooling and oil cooler

- Both air-cooled and water-cooled models have independent air coolers and oil coolers.
- The temperature of the finished compressed air can be reduced as much as possible, without considering the emulsification caused by low oil temperature.
- More reasonable utilization of space, with built-in heat recovery and other devices.



Variable frequency fan

- Variable frequency fan design, fans are activated depending on the ambient temperature and running temperature. This design can adapt the temperature difference between different regions and is more efficiency.



High efficiency, easy to maintain oil separator

- The supersized oil separator design features a larger separation area that reduce the pressure drop during the air/oil separation while providing better filtration, thus making the compressed air system more efficient.
- A patented rotating shaft design is adopted on the separator cover. The replacement of oil separator is made much easier.



More efficient motor drive

- A more efficient oil cooled motor with higher energy efficiency performance, higher energy efficiency, higher protection level, and more reliable operation.



- IE4 Motor** Power frequency model IP66 IE4 Oil cooled induction motor
- IE5 Motor** Variable frequency machine IP66 IE5 Oil cooled permanent magnet variable frequency motor

Smaller footprint

- Clever and more reasonable layout, with significantly reduced footprint compared to the old model, and sufficient maintenance space.



Super Level 1 Energy Efficiency

The SA++full series of two-stage compression screw air compressors all have product performance that exceeds the national standard of Level 1 energy efficiency.



Intelligent IoT control system

- Built in Goservice function to achieve intelligent Internet of Things control and real-time understanding of the operation of air compressors
- Large color screen touch design, comfortable human-computer interaction interface
- ntelligent monitoring of key components (motor/frequency converter)
- Optional RS485 communication, capable of sequentially controlling multiple units
- Remote on / off function
- Modular design, optional for better scalability



More efficient and energy-saving frequency conversion

The dual permanent magnet motor is directly driven, more sensitive in capturing subtle load changes in the compressor. The first and second speed ratio regulation is more flexible, convenient, and precise, ensuring stable and efficient exhaust pressure in the entire system.

Integrated structure, oil cooled permanent magnet motor and screw host are fully matched to form a closed whole permanent magnet motor that directly drives the rotor, reducing mechanical failure rate and vulnerable parts, and reducing mechanical noise; Not only does it achieve higher transmission efficiency, but it also has a compact structure.

SA++Series two-stage screw air compressor (air-cooled model)

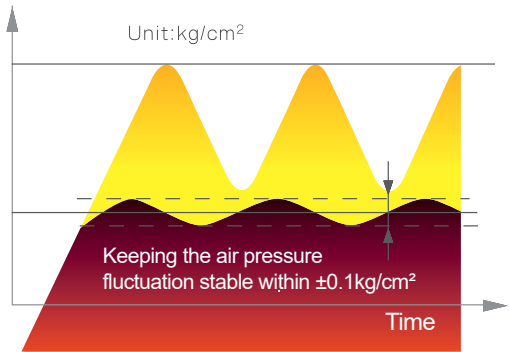
Model	Delivery m³/min	Working pressure MPa	Main mctor power kW	Air outlet size	Indicative dimensions			Weight kg
					Length mm	Width mm	Height mm	
SA++90AT	19.9	0.7	90	DN80	2400	1800	2000	3700
	18.6	0.8						
	15.7	1.0						
SA++110AT	13.8	1.25	110	DN80	2400	1800	2000	3800
	23.9	0.7						
	22.3	0.8						
SA++132AT	19.3	1.0	132	DN100	2800	2000	1998	4300
	16.8	1.25						
	29.0	0.7						
SA++160AT	27.1	0.8	160	DN100	2800	2000	1998	4500
	23.4	1.0						
	20.5	1.25						
SA++200AT	36.0	0.7	200	DN100	3200	2100	2100	6800
	33.6	0.8						
	29.6	1.0						
SA++250AT	26.0	1.25	250	DN100	3200	2100	2100	7000
	45.0	0.7						
	42.0	0.8						

SA++Series two-stage screw air compressor (water-cooled model)

Model	Delivery m³/min	Working pressure MPa	Main mctor power kW	Air outlet size	Indicative dimensions			Weight kg
					Length mm	Width mm	Height mm	
SA++90WT	19.9	0.7	90	DN80	2400	1800	2000	3600
	18.6	0.8						
	15.7	1.0						
SA++110WT	13.8	1.25	110	DN80	2400	1800	2000	3700
	23.9	0.7						
	22.3	0.8						
SA++132WT	19.3	1.0	132	DN100	2800	2000	1998	4100
	16.8	1.25						
	30.0	0.7						
SA++160WT	28.0	0.8	160	DN100	2800	2000	1998	4300
	24.5	1.0						
	21.8	1.25						
SA++200WT	37.5	0.7	200	DN100	3200	2100	2100	6400
	34.3	0.8						
	31.0	1.0						
SA++250WT	27.6	1.25	250	DN100	3200	2100	2100	6600
	47.0	0.7						
	43.0	0.8						

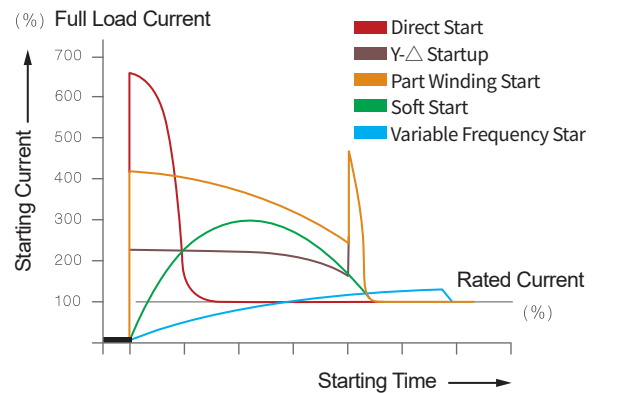
Constant pressure air supply

Variable frequency control can instantly respond to changes in customer's airflow demand, keeping the air pressure fluctuation stable within $\pm 0.1 \text{ kg/cm}^2$, eliminating the need for the traditional air compressor's set value of $1\text{--}2 \text{ kg/cm}^2$ for empty load and full load difference.



Variable frequency startup

Soft startup with variable frequency, smooth linear operation without the high current of traditional direct startup or star-delta startup. Reduces impact on electrical circuits, significantly extending the service life of electromagnetic contactors, motors, and compressor units.



SAV++Series permanent magnet variable frequency two-stage screw air compressor (air-cooled model)

Model	Delivery m³/min	Working pressure MPa	Main mctor power kW	Air outlet size	Indicative dimensions			Weight kg
					Length mm	Width mm	Height mm	
SAV++90AT	4.14~19.9	0.7-1.25	90	DN80	2400	1800	2000	3800
SAV++110AT	5.04~23.9	0.7-1.25	110	DN80	2400	1800	2000	3900
SAV++132AT	6.15~29.0	0.7-1.25	132	DN100	2800	2000	2000	4400
SAV++160AT	7.80~36.0	0.7-1.25	160	DN100	2800	2000	2000	4600
SAV++200AT	9.90~45.0	0.7-1.25	200	DN100	3200	2100	2100	7250
SAV++250AT	12.60~57.0	0.7-1.25	250	DN100	3200	2100	2100	7550

SAV++Series permanent magnet variable frequency two-stage screw air compressor (water-cooled model)

Model	Delivery m³/min	Working pressure MPa	Main mctor power kW	Air outlet size	Indicative dimensions			Weight kg
					Length mm	Width mm	Height mm	
SAV++90WT	4.14~19.9	0.7-1.25	90	DN80	2400	1800	2000	3700
SAV++110WT	5.04~23.9	0.7-1.25	110	DN80	2400	1800	2000	3800
SAV++132WT	6.54~30.0	0.7-1.25	132	DN100	2800	2000	2000	4200
SAV++160WT	8.28~37.5	0.7-1.25	160	DN100	2800	2000	2000	4400
SAV++200WT	10.50~47.0	0.7-1.25	200	DN100	3200	2100	2100	6850
SAV++250WT	13.44~59.0	0.7-1.25	250	DN100	3200	2100	2100	7150