FUSHENG

SAV series - VSD Screw Air Compressor

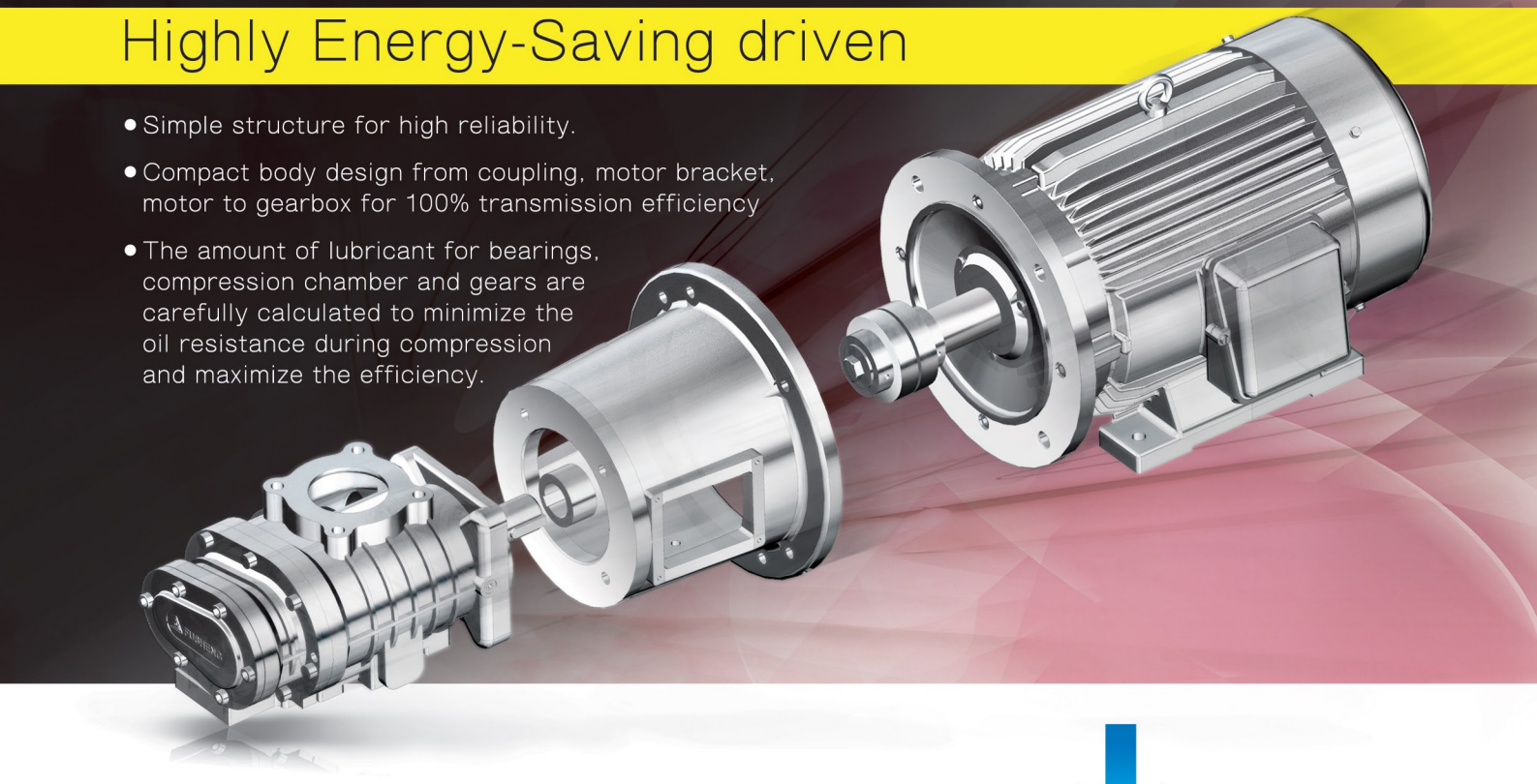
SAV08 – 200 VSD energy-saving series

SAV15 – 75 VSD IPM series

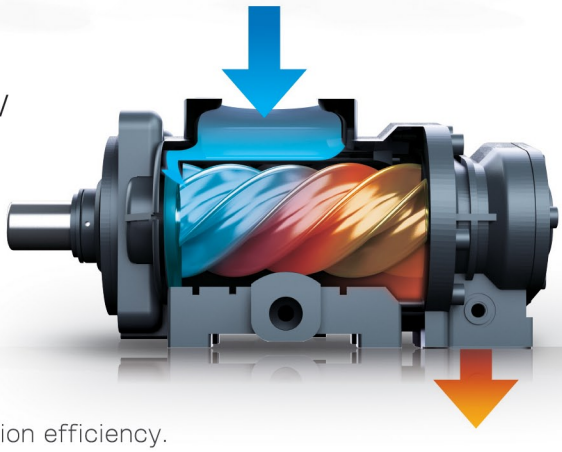
eCOOL TECHNOLOGY

Highly Energy-Saving driven

- Simple structure for high reliability.
- Compact body design from coupling, motor bracket, motor to gearbox for 100% transmission efficiency
- The amount of lubricant for bearings, compression chamber and gears are carefully calculated to minimize the oil resistance during compression and maximize the efficiency.



High Efficiency Airend Induce Air Flow from Axial and Radial directions



- High efficiency airend is designed by Fusheng Global R&D Center in Germany. The optimum design of rotor profile, volume and power consumption provides low rotational speed and increase the operating efficiency.
  - Lower operational noise level
  - Longer service life of airend and bearings.
  - Fully utilize effective rotor length to maximize the compression efficiency.

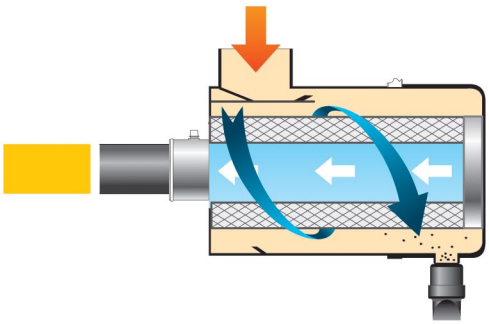
Highly Efficient Design

Inlet valve

One valve serves as non-return valve, shut-off valve and modulation control valve (optional) all together. The low pressure drop design optimizes air intake efficiency. The compressor adjusts itself automatically with the actual need for compressed air as it operates, allowing for more accurate control of unload pressure and thus greater energy efficiency.

All end faces are sealed to completely remove the leakage

An environment-protective zinc-connector is mounted for connection and the end faces are sealed to completely remove the leakage.

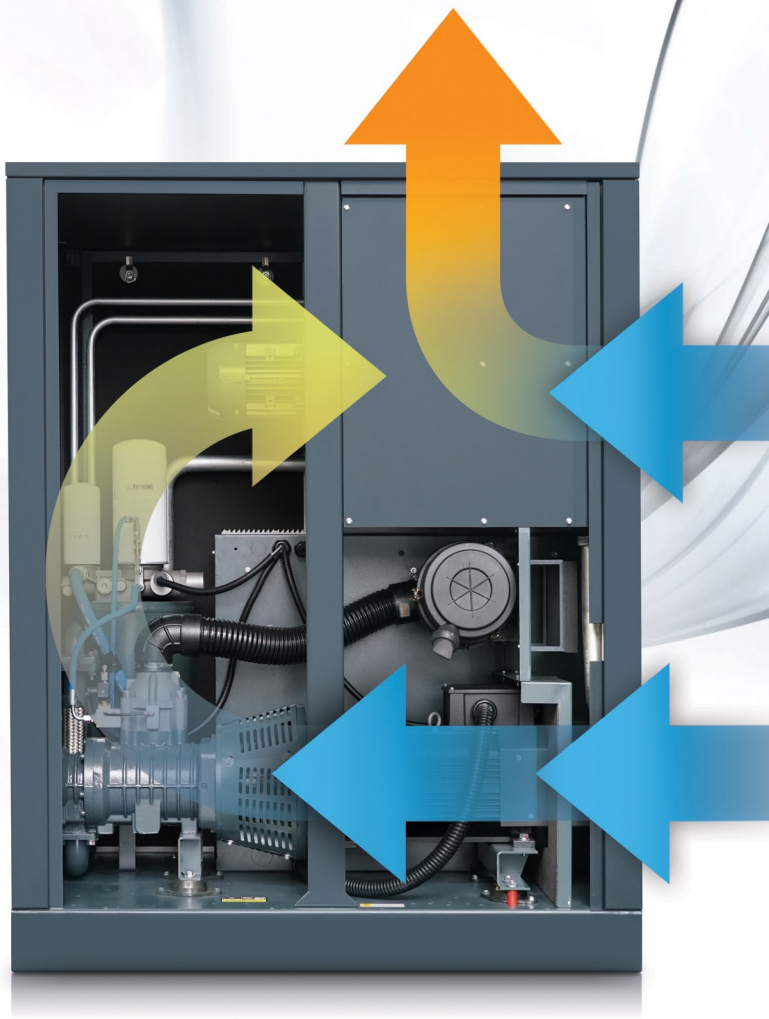


Safe and high-efficiency air filter system

- The big particle size of dust in the vacuumed air will follow the air whirl and fall into the rubber slot at front end of air filter casing instead of attaching to clog the surface of filtration core.
- The long service life filtration core is designed with large filtration area and smaller resistance against air suction to ensure that the pure air whirl is without impurities.

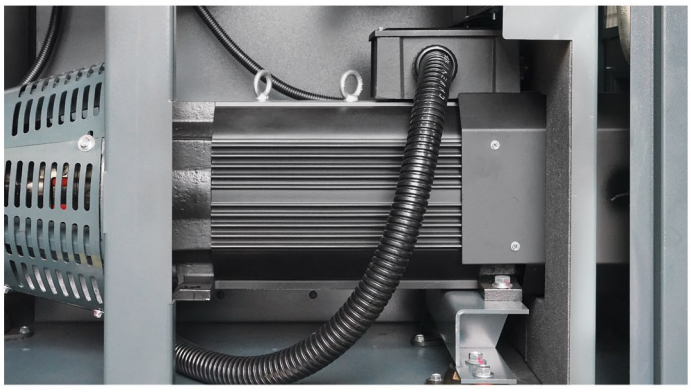
Unique cooling flow field, silence and efficiency

- In the electric control panel, the colder air is drawn in directly to ensure the best heat dissipation.
- Compressor inlet and cooler inlet are equipped with high-efficiency filters, effectively blocking the impurities into the compressor airend or attached to the cooler to ensure the cooling effect.
- With the centrifugal fan, cold air is sucked in directly from outside to cool the cooler, and hot air is dissipated out from the top; With the greater heat transfer surface, the cooler ensuring excellent cooling effect.
- The centrifugal fan located inside the unit series to suction port, discharges the hot air within the unit out from the top. This unique cooling air flow design, significantly reduces the noise generated due to the fan operation.
- During cooler cleaning, simply remove the cover without dismantle the air duct and doors.



Eco- and user-friendly idea

Permanent-Magnet motor is an option for SA series screw compressor. It gives the compressor unit greater efficiency and better energy-saving.



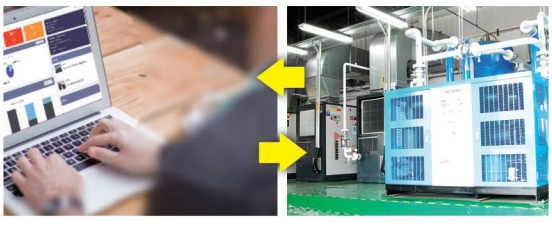
Small footprint but greater energy efficiency

From design concepts to application of parts, Fusheng's SA series features better performance and therefore higher energy efficiency level. The high performance compact design means smaller footprint and proximity to air use locations, thus reducing loss due to pipeline significantly.

IoT smart real-time service system (optional)

The IoT compressor management system in the cloud platform realizes the unification of monitoring, malfunction diagnosis and servicing in one package. The messages of compressor malfunction and real-time status are sent to the designated professionals by SMS and email.

GoService



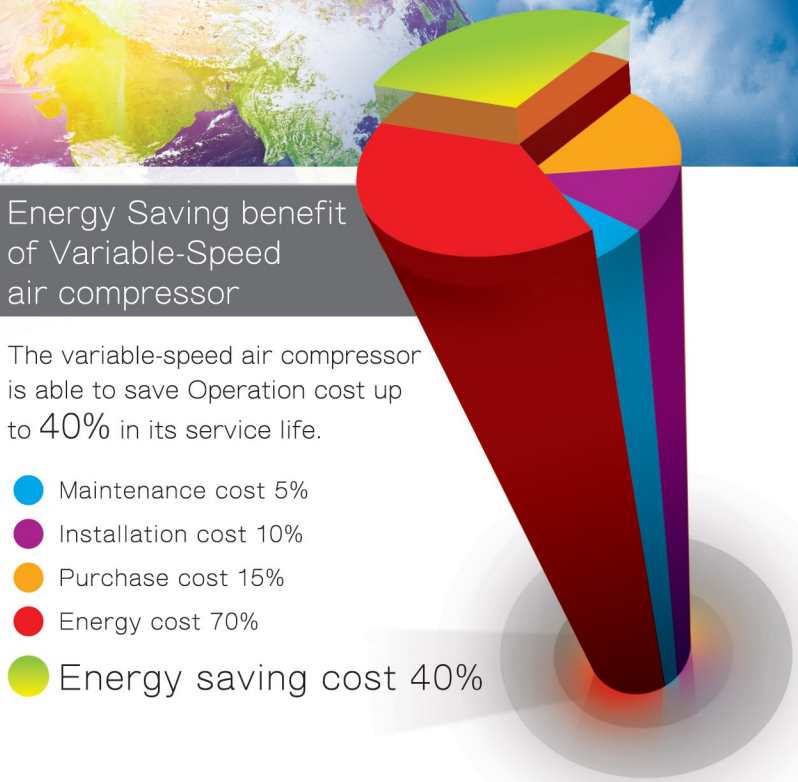
Vibration reducing device

The vibrations are reduced efficiently as the compressor is operating. It also prevents the propagation of low-frequency noises through resonance of solid objects while prolonging the compressor's service life.

SAVING ENERGY

Energy Saving benefit of Variable-Speed air compressor

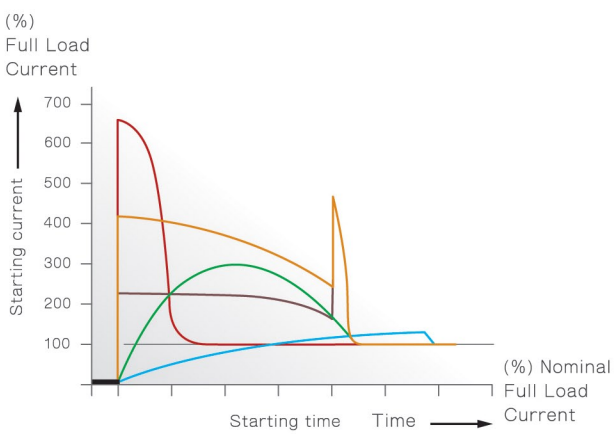
The variable-speed air compressor is able to save Operation cost up to 40% in its service life.



Highly integrated and high-efficiency airend

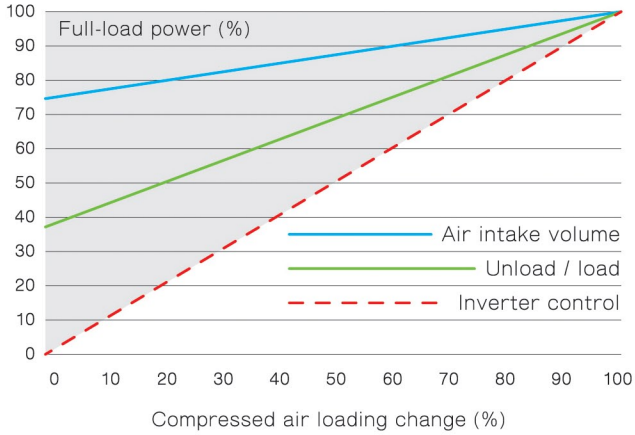
VSD Starting / Running

- Starting current is reduced
- Starting current is eliminated for Y-Δ switching
- Extending service life of compressor



Frequency inverting control for energy saving

Variable-Speed air compressor can provide 30%~100% turndown range of capacity control. According to actual compressed-air demand of system to automatically adjust rotational speed of motor to meet the requirement. Providing optimum energy saving solution in varialbe loading management and reducing the operation cost up to 45%.



Intelligent Controller

Simplicity Ingenuity Reliability

Operation messages

- Remote control status
- Alarm history record
- Malfunction history record
- Discharge air pressure/temperature
- Number of load/unload changeover time
- Total running time/total load time
- Motor current display (standard unit)
- Fan current display
- Main power supply voltage display (standard unit)
- Main motor power consumption percentage, frequency percentage display (exclusive for VSD type)

Features and functions of AIMS Plus controller

- freeze-proofing and no-load running protection function
- Alarm/trip history record in consecutive 30 entries for maintenance and service inquiry
- Monitoring main motor current function
- Monitoring fan current function
- Setting shutdown time due to unload too long function
- Selection for auto start after reseting power failure function

Fault messages inquiry

- Trip by phase sequence protection
- Malfunctioning pressure transmitter
- Trip by discharge air temperature alarm failure
- Trip by too high discharge air temperature/pressure
- Trip by abnormal discharge air pressure upper/lower limit
- Trip by motor/fan overload
- Input power supply protection

Service & maintenance prompts

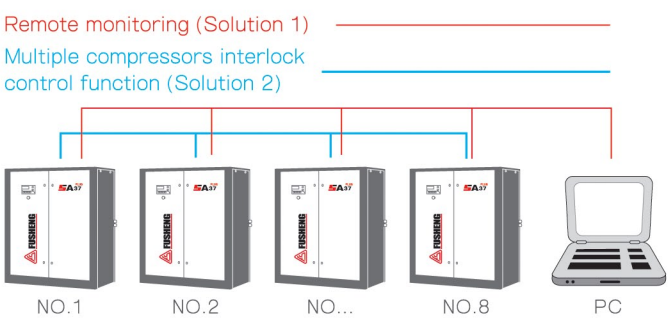
- Motor service & maintenance time
- Compressor service & maintenance time
- Oil filter service & maintenance time
- Lubricating oil service & maintenance time
- Belt service & maintenance time
- Oil fine separator service & maintenance time
- Air filter service & maintenance time

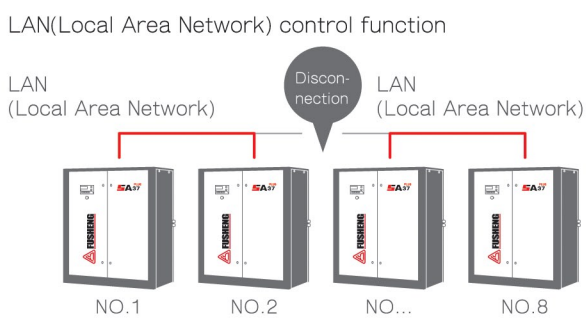
Load management (Applicable to standared fix-speed model)

- High expandability, interlock control is available up to 8 compressor units; no need to externally add the interlock box and system pressure transmitter.
- Joint control for multiple compressors to ensure a pressure difference <0.2 bar at each compressor.
- Equipped with MODBUS communication function that can achieve the most effective load management at the least cost and monitor the running status of each compressor just by linking RS485 with a two-core shielded wire (2-wire type)
- Sequence start-up, unloading and switchover time setting
- Disconnection of joint control for multiple compressors will self-enable the area network control function to ensure a stable air supply.

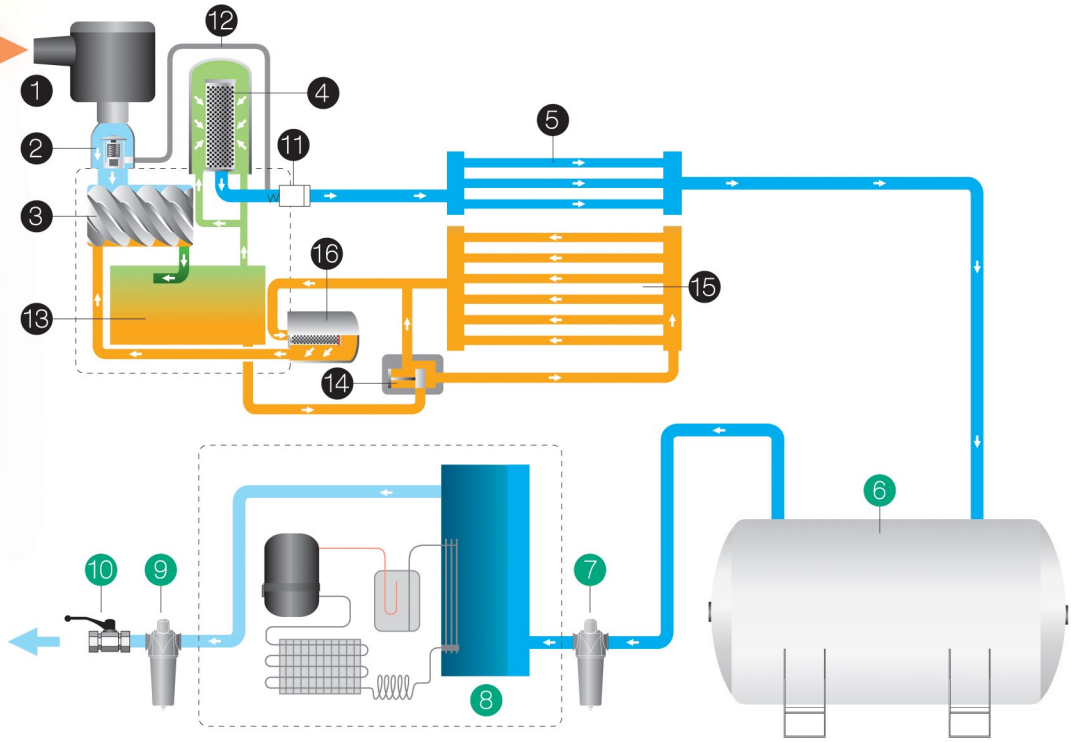
Controller display

- Simple and easy-to-operate human-machine interface
- Language selection:
  English/Traditional Chinese/Simplified Chinese/Portuguese/Spanish





System flow chart



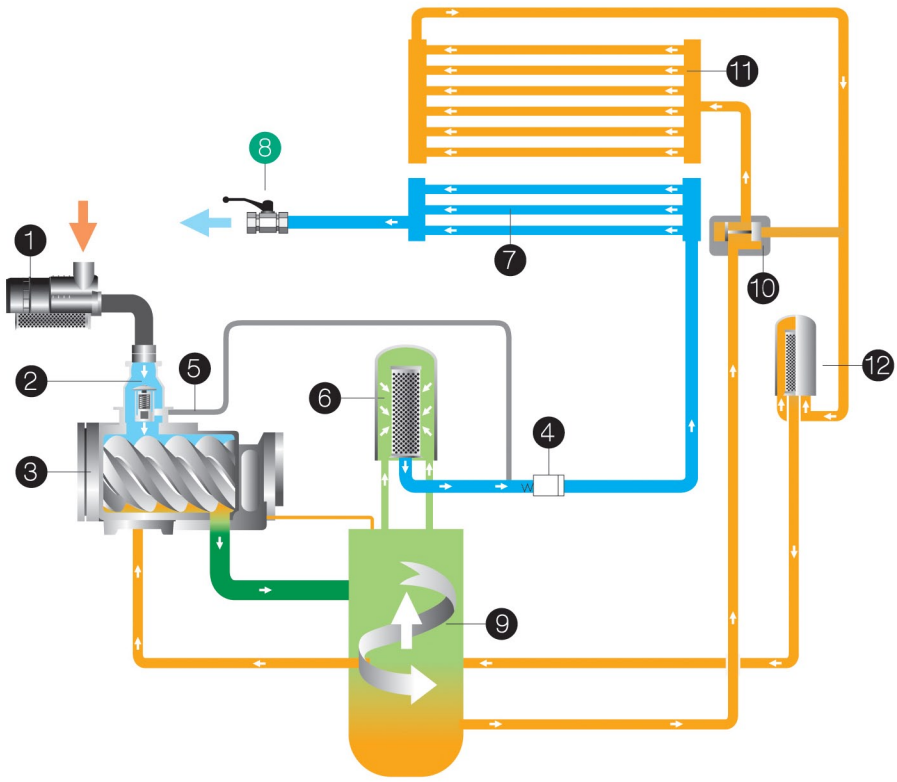
08-11

Air Flow

1. Air filter
2. Air inlet valve
3. Air compressor airend
4. Oil fine separator
5. After cooler
6. Air receiver (Optional)
7. Precision filter (Optional)
8. Refrigeration dryer (Optional)
9. Post precision filter (Available if required)
10. Compressed air outlet valve (Optional)
11. Minimum pressure valve (MPV)
12. Air inlet control piping

Oil Flow

13. Air/Oil separator tank
14. Thermal control valve
15. Oil cooler
16. Oil filter



15-37

Air Flow

1. Air filter
2. Air inlet valve
3. Air compressor airend
4. Minimum pressure valve (MPV)
5. Air inlet control piping
6. Oil fine separator
7. After cooler
8. Air outlet valve (Optional)

Oil Flow

9. Air/Oil separator tank
10. Thermal control valve
11. Oil cooler
12. Oil filter

SAV series - VSD Air Compressor

SAV08-37

Configuration specifications

● Standard ○ Optional × Not available

Model	compressor	Dryer	Precision filter	Air receiver	inverter
SAV	●	×	×	×	●
SAV-R	●	●	○	×	●
SAV-T	●	×	×	●	●
SAV-F	●	●	○	●	●

Model	Working pressure	Delivery	Main motor power		Voltage	Lubricating oil volume	Compressed air outlet	Length	Width	Height	Weight	Noise
	barG	m^3/min	kW	HP	V	Liter	inch	mm	mm	mm	kg	dB(A)
50Hz / 60Hz												
SAV08	7	0.64~1.27	7.5	10	380 415 / 220 380 440	7.5	G 3/4	1200	670	1100	310	67
SAV08-R	8	0.59~1.18						1200		1100	364	
SAV08-T	10	0.50~0.99						1545		1710	450	
SAV08-F	12	0.40~0.80						1545		1710	504	
SAV11	7	0.91~1.82	11	15							320	
SAV11-R	8	0.85~1.7									374	
SAV11-T	10	0.76~1.52									460	
SAV11-F	12	0.68~1.35									514	
SAV15	7	0.75~2.5	15	20		15	G1	1250	880	1515	540	72
	8	0.69~2.3										
	10	0.63~2.1										
	12	0.54~1.8										
SAV22	7	1.17~3.9	22	30							550	74
	8	1.11~3.7										
	10	0.96~3.2										
	12	0.84~2.8										
SAV37	7	1.98~6.6	37	50		18.5	G1 1/2	1350	940	1680	755	75
	8	1.89~6.3										
	10	1.68~5.6										
	12	1.47~4.9										

* Noise level is measured according to ISO 2151

SAV55-200

Model	Working pressure	Delivery	Main motor power		Voltage	Lubricating oil volume	Compressed air outlet	Length	Width	Height	Weight	Noise
	barG	m³/min	kW	HP	V	Liter	inch	mm	mm	mm	kg	dB(A)
50Hz												
SAV55A / SAV55W	7	3.09~10.3	55	75	380 415	39	G2	2000	1250	1750	1660 / 1710	74
	8	3.03~9.7										
	10	2.52~8.7										
	12	2.28~7.8										
60Hz												
SAV55A / SAV55W	7	3.09~10.3	55	75	220 380 440	52	G2	2180	1330	1850	2010 / 1998	76
	8	3.03~9.7										
	10	2.52~8.7										
	12	2.28~7.8										
50Hz 60Hz												
SAV75A / SAV75W	7	4.2~14	75	100		52	G2	2180	1330	1850	2010 / 1998	76
	8	3.84~12.8										
	10	3.54~11.8										
	12	3.18~10.6										
SAV90A / SAV90W	7	4.92~16.4	90	125		52	G2	2180	1330	1850	2010 / 1998	76
	8	4.59~15.3										
	10	4.14~13.8										
	12	3.72~12.4										
SAV110A / SAV110W	7	6.30~21.0	110	150		80	3" Flange	2940 / 2740	1710	1725	2900 / 2800	78
	8	6.00~20.0										
	10	5.10~17.0										
	12	4.59~15.3										
SAV132A / SAV132W	7	7.56~25.2	132	175	380 415						3600 / 3500	
	8	6.96~23.2										
	10	6.3~21.0			220 380 440							
	12	5.49~18.3										
SAV160A / SAV160W	7	8.76~29.2	160	215		120	4" Flange	3300 / 2900	1860	1945	3900 / 3800	81
	8	8.37~27.9										
	10	7.38~24.6										
	12	6.57~21.9										
SAV185A / SAV185W	7	9.78~32.6	185	250							3950 / 3850	
	8	9.12~30.4										
	10	8.28~27.6										
	12	7.59~25.3										
SAV200A / SAV200W	7	10.56~35.2	200	270							4000 / 3900	
	8	10.11~33.7										
	10	9.09~30.3										
	12	8.31~27.7										

* Noise level is measured according to ISO 2151

Permanent Magnet - Bring out the best of variable speed motor

Energy saving and eco-friendly

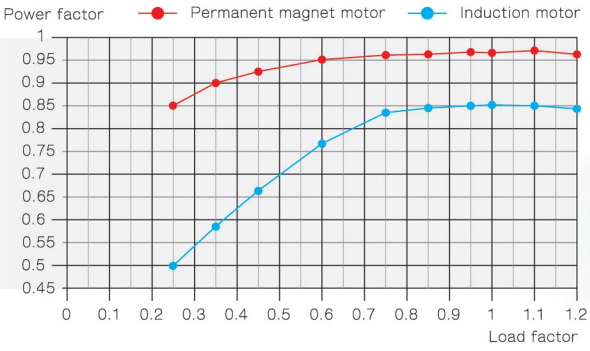
- Highly efficient motor helps reduce power consumption, complying with the requirements for energy saving and CO_2 reduction.
- The combination of Fusheng's efficient airend and meticulous system design allows clients for the ultimate experience of energy saving.
- Large starting torque, low operating noise, and low motor temperature rise help to realize unlimited starting, make the energy saving to the extreme.

Long life

- To avoid the poor system availability and concentricity commonly seen in traditional bearing designs, for better reliability of the transmission system.
- The design combining permanent magnet, high performance and power factor features no copper/ iron loss. The motor efficiency achieves IE4, ensuring stable operations and improved service life.

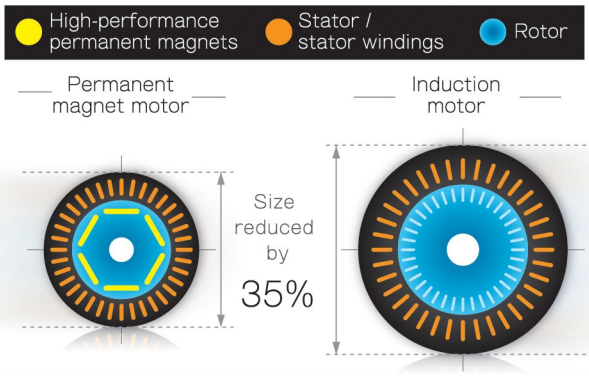
Highly efficient

The permanent magnet motor maintains at good working conditions as it is synchronized at low rpm. The output is stable even within the range of rpm regulation, much better than a typical induction motor. Top efficiency is achieved even at light loading.



Light weight

Permanent magnets are used in place of windings to make the motor more compact and weigh less. The size of motor is 35% smaller for an highly compact and lightweight design as opposed to a typical induction motor.



SAV15-75 Permanent-magnet variable speed (IPM)

Model	Working pressure	Delivery	Main motor power		Voltage	Lubricating oil volume	Compressed air outlet	Length	Width	Height	Weight	Noise
	barG	m^3/min	kW	HP	V	Liter	inch	mm	mm	mm	kg	dB(A)
50Hz	60Hz											
SAV15	7	0.625~2.5	15	20		15	G1	1250	880	1515	540	72
	8	0.575~2.3										
	10	0.525~2.1										
	12	0.45~1.8										
SAV22	7	0.975~3.9	22	30		15	G1	1250	880	1515	550	74
	8	0.925~3.7										
	10	0.8~3.2										
	12	0.7~2.8			380							
SAV37	7	1.65~6.6	37	50	415	18.5	G1 1/2	1350	940	1680	755	75
	8	1.575~6.3										
	10	1.4~5.6			220							
	12	1.225~4.9			380							
					440							
SAV55A	7	2.575~10.3	55	75							1660	
	8	2.525~9.7				39	G2	2000	1250	1750	1710	74
SAV55W	10	2.1~8.4				52		2180	1330	1850	1910	76
	12	1.9~7.6									1898	
SAV75A	7	3.5~14	75	100		52	G2	2180	1330	1850	1910	76
	8	3.2~12.8										
SAV75W	10	2.95~11.8									1898	
	12	2.65~10.6										

* Noise level is measured according to ISO 2151

FUSHENG

SAV series - VSD Screw Air Compressor

SAV08 – 200 VSD energy-saving series
SAV15 – 75 VSD IPM series

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