



## SL SERIES

Permanent Magnetic VSD Screw Air Compressor



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## COMPRESSOR FEATURES

### Application status of screw compressor motor:

- ▶ In screw compressor industry, the mostly universal driven system is directly-driven motor by power, another is adjust motor speed by inverter.
- ▶ In the first driven system, adjust air flow by inlet air valve close degree, the motor will be on full loading and much energy be consumed, even if the air flow are very lower or no air flow.
- ▶ In the second driven system, the three phase asynchronous VSD motor replace the directly-driven motor, can save some power. But considering of the motor design by rated point, the motor power factor & efficiency also will sudden reduce when the motor decelerate, so, this motor also is not the best suitable motor for VSD screw compressor.



- ① Install the motor rotor directly at the male screw Rotor shaft extension, remove motor front cover, Coupling, bearing & shaft sleeve, simple & Compact structure, will reduce 40%~50% volume compare to traditional motor with coupling.
- ② Adopted whole units structure, motor without bearing, no friction & wearing parts, no need maintenance cost.
- ③ Produce at Chinese GB19153-2009 Volumetric Air Compressor Energy Efficiency & Label, can meet at energy label 2 and even up to 1

### Permanent Magnetic Synchronous Motor Advantage:

#### ① Higher Efficiency

Excitation magnetic provide by permanent magnetic, rotor do not require excitation current, increase motor efficiency at any speed, especial at low speed.

#### ② Lower current and High torque at Start

As for inverter V/F character, start with lower frequency, main magnet & power factor & torque will be lower, and high current for asynchronous motor; for permanent magnetic motor with constant main magnetic & lower 100% active current & high torque.

#### ③ High Force Index

Force Index depend on motor power & efficiency. For asynchronous motor, efficiency will reduce 15%, power factor reduce 30%, force index reduce 40% at 60% loading status; For synchronous motor, the efficiency & power factor likes a horizontal curve, force index still be more than 80% of full loading even if at 20% loading status, increased much of unilization ratio.

#### ④ Small Size, Light Weight

Use high performance permanent magnetic material to enhance air-gap magnetic, can reduce much size & weight of motor.





Permanent Magnetic VSD Compressor Specification

MODEL	Kw/HP	Mpa	m <sup>3</sup> /min	dB	inch	kg	L×W×H(mm)
SL 10PM	7.5/10	0.5-0.8	0.3-1.1	60	G3/4"	215	840×660×880
SL 15PM	11/15		0.4-1.6			260	910×700×1000
SL 20PM	15/20		0.5-2.4			270	
SL 30PM	22/30		0.8-3.6	62	G1"	405	1000×750×1090
SL 40PM	30/40		1.0-5.0			410	
SL 50PM	37/50		1.2-6.6		G1-1/2"	650	1150×950×1350
SL 60PM	45/60		1.5-8.0			670	
SL 75PM	55/75		1.8-10.2	65	G2"	1380	1600×1200×1580
SL 100PM	75/100		2.6-13.5			1480	
SL 150PM	110/150		4.2-20.8	68	DN65	2250	2000×1550×2000
SL 180PM	132/180		4.8-24.0			2350	

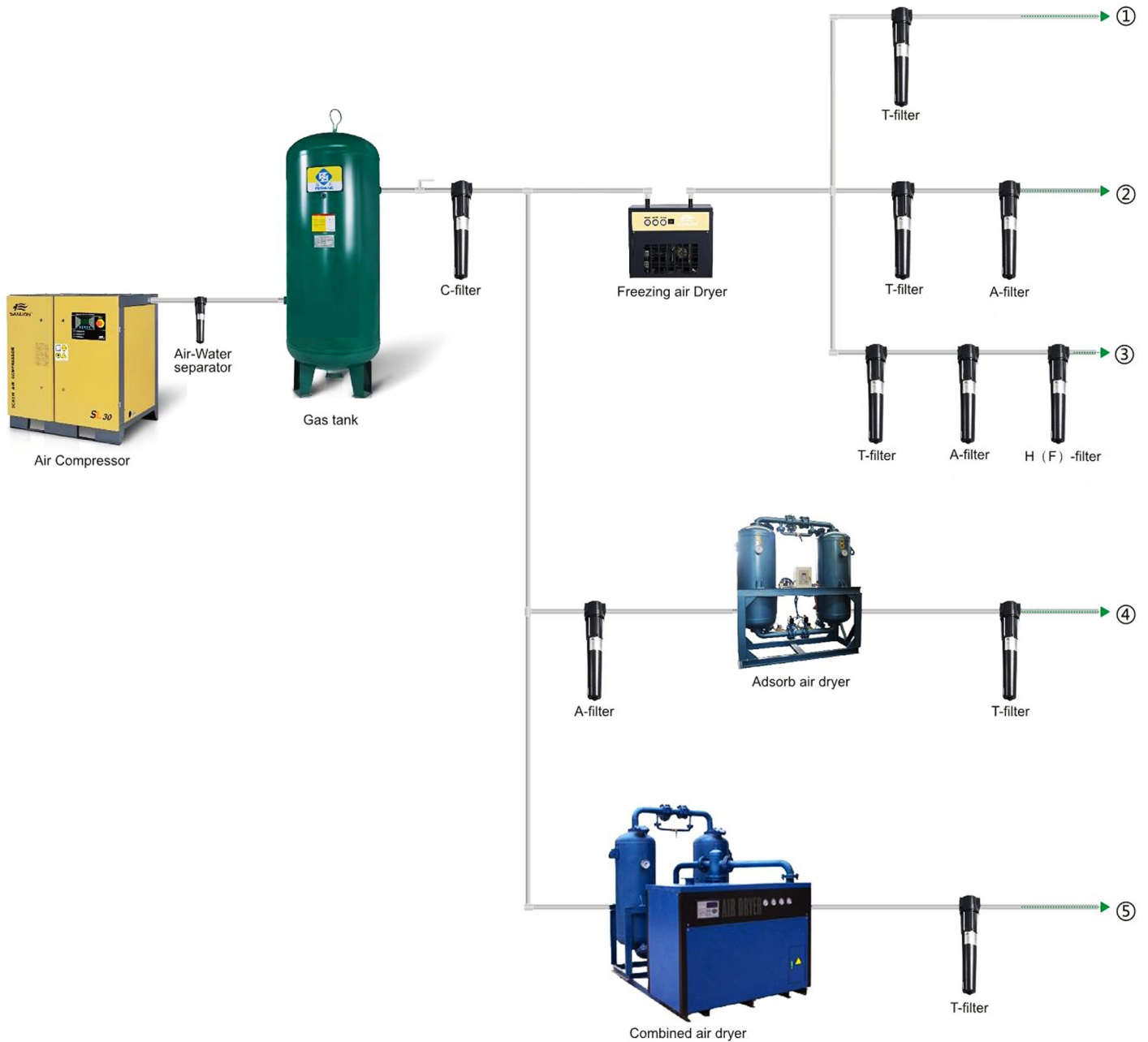
## FIX-SPEED MODEL



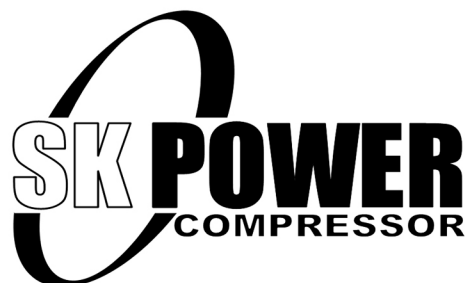
whole-unit screw Compressor specification

MODEL	Kw/HP	Mpa	m <sup>3</sup> /min	dB	inch	kg	L×W×H(mm)
SL 7.5	5.5/7.5	0.8	0.8	60	G3/4"	185	840×660×880
SL 10	7.5/10	0.8	1.1			205	
		1.0	0.95			245	910×700×1000
SL 15	11/15	0.8	1.6				
SL 20	15/20	1.0	1.4	255			
		0.8	2.4				
SL 30	22/30	1.0	2.0	62	G1"	390	1000×750×1090
		0.8	3.6				
SL 40	30/40	1.0	3.2			410	
		0.8	5.0				
SL 50	37/50	1.0	4.5	63	G1-1/2"	630	1150×950×1350
		0.8	6.6				
SL 60	45/60	1.0	5.8			660	
		0.8	8.0				
SL 75	55/75	0.8	10.2	65	G2"	1350	1600×1200×1580
SL 100	75/100	0.8	13.5			1450	
SL 150	110/150	0.8	20.8	68	DN65	2200	2000×1550×2000
SL 180	132/180	0.8	21.0			2300	
SL 220	160/220	0.8	27.6	72	DN80	3200	2400×1860×2000
SL 250	185/250	0.8	30.8			3500	
SL 350	250/350	0.8	40.8	76		4900	3100×2150×2320

## Compressed Air Purifying Equipment Apply Drawing



system	Max pressure dewpoint ( °C )	Max oil content (mg/m3)	Solid particle diameter ( μm )	Apply range
①	≤3°C	0.1	≤1	Pneumatic, General Spraying
②	≤3°C	0.01	≤0.1	Electronics Industrial, Instrumentation, Electrostatic Spraying
③	≤3°C	0.003	≤0.1	Food Industrial, Medical
④	≤-40°C	0.01	≤0.1	Precise Electronic, Chemical Analysis, Medical Health
⑤	≤-40°C	0.01	≤0.1	Oil Free, Water-Free Medical Bio-grade Pneumatic



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