



Permanent Magnet VSD Screw Air Compressors



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GUANGZHOU LEADCOM COMPRESSOR CO.,LTD.

Special Customization / Extreme Application

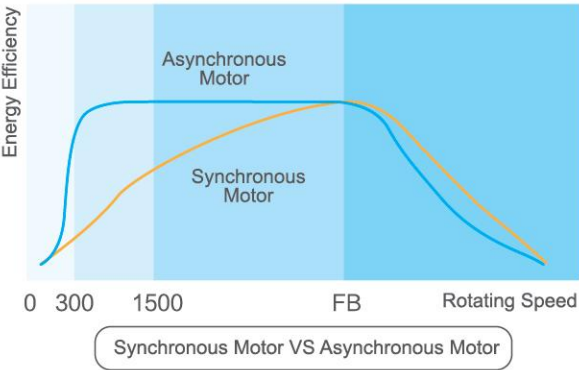
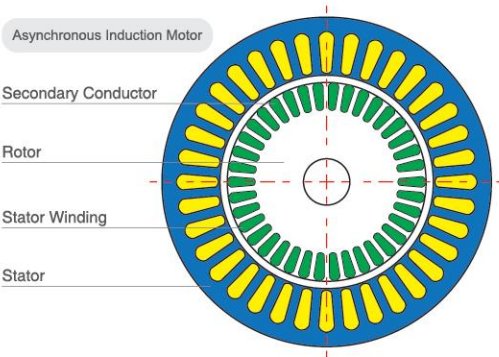
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LeadCom Profile

Situated in Guangzhou City, which is acclaimed as the production base of Chinese compressors at the heart of the Pearl River Delta, Guangzhou LeadCom Compressor Co., Ltd. is a professional manufacturing enterprise dedicated to the R&D, production and sales of various kinds of screw air compressors, nitrogen generators, oxygen generators, vacuum pumps and maglev compressors. Devoting to providing various industries with all-around services, we have standard assembly lines integrated with the state-of-the-art technologies of Europe and North America.

For the tremendously difficult Sichuan-Tibet Railway oxygen-supply system, we offered unrivaled air compressors, overcoming the related difficulties, e.g. high altitudes, ultra-low temperatures, ultra-high temperatures, huge dust and frequent power switching etc. With our cutting-edge technology and top-notch products, LeadCom is the globe's exclusive air compressor supplier for this world-class project.



Permanent Magnet Motor VS Ordinary Asynchronous Motor

Compared with electrically excited motor, permanent magnet motor has the following advantages.

High Efficiency

Cancel excitation system loss and improve efficiency by 5~12%, high power factor, high torque-to- inertia ratio, reduced loss of stator current and stator resistance, measurable rotor parameters, good control performance, directly motor-driven, no rotating speed slip, no bearing and connection transmission, enhanced efficiency >3%, enhanced efficiency: 15~35% in light-load compared to asynchronous motor of same specs, remain efficient in light-load or heavy-load. The LeadCom permanent magnet motors all meet China's Level-1 energy efficiency standards.

Low Noise

Reasonable magnetic field design and magnetic density distribution, wider operating frequency range, lower noise. Truly constant air pressure: open-loop vector control, response time<50ms, instantly adjustable air capacity in a wide range.

High Precision

Quick Response

Excitation winding and excitation power supply (pole iron core) are canceled: simple structure, reliable operation and easy maintenance.

High Starting Torque

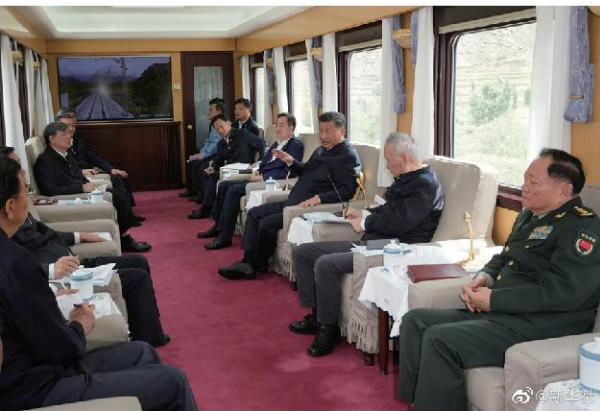
Compared with 3-phase asynchronous motors, starting torque of all permanent magnet synchronous motors is in a higher power level. Ratio of maximum starting torque to rated torque can be 3 or higher while that of common asynchronous motor is just 1,6.

LeadCom presents the Tibetan people a marvellous gift by strongly supporting Sichuan-Tibet Railway construction

LeadCom presents the Tibetan people a marvellous gift!



On July 21, 2021, General Secretary Xi Jinping went to Tibet for a survey. On the morning of July 22, Mr. Xi visited Nyingchi Railway Station to learn about the overall planning of Sichuan-Tibet Railway and the construction and operation of the Lhasa-Nyingchi section. Then he took a train to Lhasa City to observe the construction of the Lhasa-Nyingchi railway and had an in-depth study of the relevant issues.



The railway inspected by Mr. Xi was the Nyingchi Section , an important part of the Qinghai-Tibet Railway and the Sichuan-Tibet Railway. On June 25, 2021, the Lhasa-Nyingchi railway, Tibet's first electrified railway was officially put into operation after six and a half years of hard work. Hence, the Fuxing high-speed train had reached the roof of the world and achieved the historic coverage of 31 provinces, autonomous regions and municipalities, opening a breath-taking chapter in the construction and development of Tibet and the plateau. If you look at in Tibet in the past, there was even not a single road for running cars before its liberation. But now, great changes have taken place there! (abstract from the Xinhua News Agency)

The construction of the Sichuan-Tibet Railway was more complex and tougher than the Qinghai-Tibet Railway, which was opened in 2006. In particular, the demanding requirement for air compressor of the oxygen supply system brought almost impossible missions in terms of high altitude, ultra-low temperatures, ultra-high temperatures, huge dust, frequent switching of power supply, etc. But that had been perfectly overcome by the LeadCom team.

The opening of the Sichuan-Tibet Railway was on the occasion of the 100th anniversary of the founding of the Chinese Communist Party and the 70th anniversary of the peaceful liberation of Tibet. It precisely demonstrated China's good system and superb technology, and created favorable conditions for the Tibetan people to escape poverty and achieve common prosperity! LeadCom not only produces highly sophisticated air compressors, but also common industrial screw air compressors. Mr. Zeng Bin, the LeadCom R&D director told the reporter: "we will not only produce compressors of high technical difficulties, but also extend the technology to general industrial air compressors. So ordinary factories can also benefit from our high-quality air compressors."

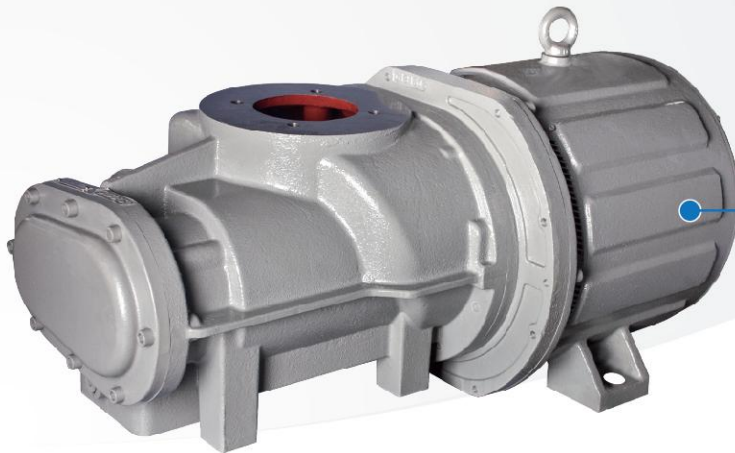
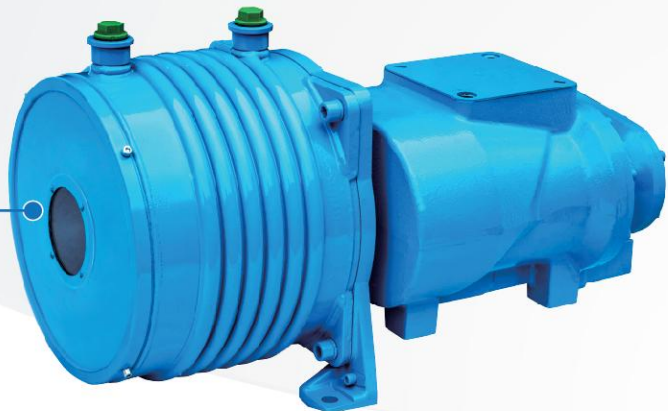
Quality Upgrade Three Lightspots



Variable Frequency Technology

New Oil-cooled Main Machine

- IE5 ultra-high efficiency oil-cooled motor
- No magnetic loss 180℃
- IP65 protection grade: suits all-weather conditions
- No cooling blades that required by air-cooled motor: zero wind-resistance energy consumption
- At low speed, motor cooling capacity stays constant: more reliable and longer life
- Motor shell is encompassed by oil-circuit: low noise



Classical Air-cooled Main Machine

- IE4 high-efficiency motor
- No magnetic loss 140℃
- 2 optional protection grades: IP23 and IP54. Please choose based on your conditions.
- Wide speed-adjusting range, the torque suits more broadband settings.

01

Applications of Rare-earth Permanent Magnet Motor

A 37kW machine: saves 10.722,6 kWh/Year

- LeadCom efficient rare-earth permanent magnet synchronous motors are remarkably more energy-saving than ordinary asynchronous variable frequency motors. Full-load efficiency of a LeadCom 37kW machine is 97% while that of an equivalent asynchronous motor is just 92%. So 5% energy is saved!
- The lower rotating speed, the lower efficiency of an ordinary asynchronous variable speed motor while that of permanent magnet synchronous motor stays the same. Therefore, ours can save 7~11% energy on average.
- If a machine runs 6.000 hours/year, electricity saved: $6.000h \times 60\% \times 42,55kW \times 7\% = 10.722,6kWh/year$, money saved: $10.722,6 \times 1RMB/kWh = 10.722,6 RMB$.

02

Variable Frequency Technology (VFT) Applications

LeadCom C37Y saves electricity 51.120 kWh/year!

If load rate of a 37kW air compressor is 60%, that means a 40% no-load rate. But during the no-load, 21,3kW(full-load 42,55÷2) electricity is wasted. If the air compressor runs 6.000 h/year, 21,3kW/h electricity is wasted in the 2.400 hours.

If air compressor runs 6.000 hours/year with a load rate 60%, consumed electricity would be 153.180kWh. But in actual operation, in 40% of the time, it's no-load with consumed electricity 21,3kW. So wasted electricity is $6.000 h \times 40\% \times 21,3kW = 51.120 kWh$. Normally, air compressors do not run on full-load. As per industrial stats, average load rate is 60% (industrial figure, actual saved electricity is subject to customer actual conditions). When no-load occurs, the motor has to continue to work with no-load and causes a waste.

Note: 37kW is power of main machine shaft. Actual input power of main machine is $(37 \times 1,15 \text{ service coefficient}) = 42,55kW$.

03

Adjustable pressure: no pressure fluctuation loss

LeadCom C37Y saves electricity 10.722,6 kWh/year!

The pressure 0,8MPa of an ordinary machine is actually no-load pressure. However the load pressure is 0,65MPa and means 0,65MPa is already sufficient for production.

With LeadCom C37Y, pressure can be adjusted to 0,65MPa to save electricity 10.722,6 kWh/year! 1% of system energy consumption can be saved if system pressure reduces to each 0,14 barg. Here we take 7%. If the machine runs 6.000 hours/year, saved electricity: $6000 h \times 60\% \times 42,55kW \times 7\% = 10.722,6 kWh/year$.

Save more 72.000 kWh/year electricity than power frequency air compressor

Industrial figure, actual saved electricity is subject to customer actual conditions

Product Core Technical Support



High-performance NdFeB permanent magnet
No magnetic loss 140℃ (air-cooled)
No magnetic loss 180℃ (oil-cooled)
Service life > 15 years



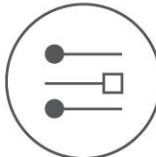
Dedicated electric-corona-resistant enameled wire for converter
Superb insulation
Longer service life



Average 35~50% energy saved during air-consumption fluctuations



Reduce system operating pressure
More energy-saving with constant pressure



No wasted electricity of no-load



Efficient permanent magnet synchronous variable speed driven (VSD) motor
Oil-cooled efficiency: IE5



Wide range for AC input voltage
No crash during operation

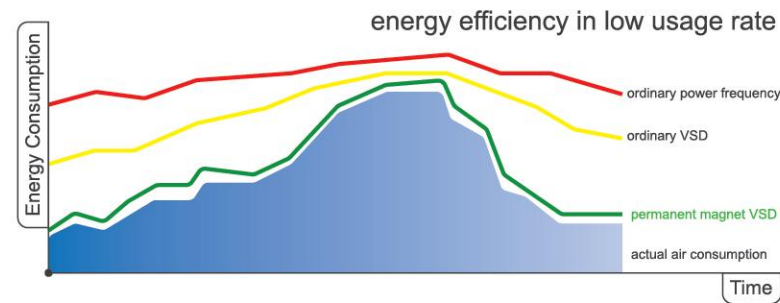


Adjust air capacity based on specific pressure



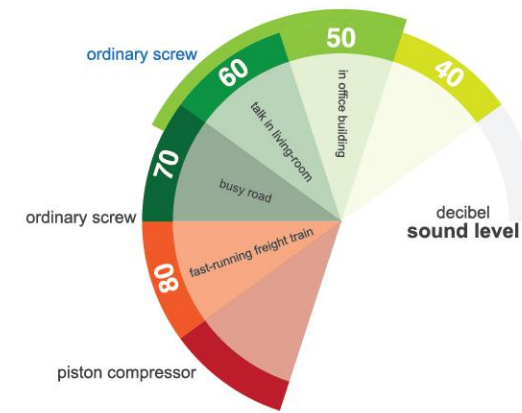
Full-color touch screen
More user-friendly

Two-stage Compression



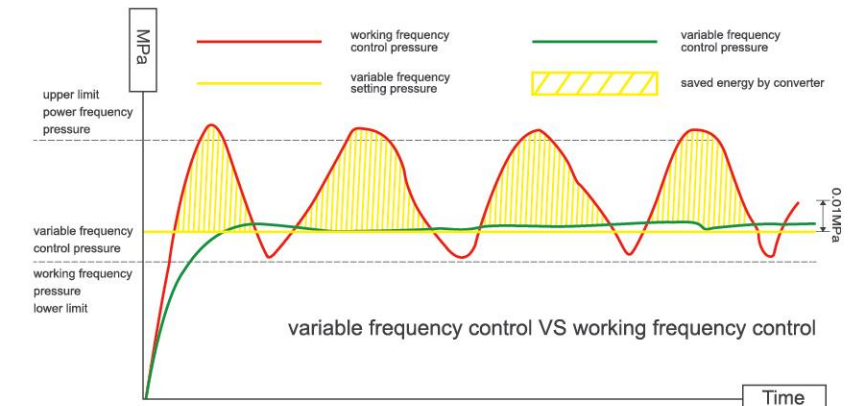
Conclusion | Compared to ordinary power frequency and VSD air compressors, permanent magnet VSD air compressors save more energy

When choosing air compressors, most enterprises reserve 20% air capacity given the pressure loss and conventional selections for air compressors. However, user air consumption fluctuates greatly all the time, directly causing the actual air consumption of the vast majority of air compressors to be only 50~70% of the rated capacity. In the sense, the users are pointlessly paying for excessive electricity and suffering from high costs. Nowadays, the crucial part of the costs is the incessant electricity bill, instead of material costs. To save electricity is to save cost!



Air-end Operates Almost Silent

- Advanced design structure, noise-absorptive materials and optimized fluids: ultra-low operating noise.
- VFT-controlled fan blades (optional): further reduce noise.
- Excellent measures for sound pressure, sound effect and volume to get lowest noise: meet all conditions.



Energy-saving **40%**

Energy Efficient Save A Lot





Single Stage Compression

Oil-cooled Motor

The core NdFeB magnetic steel can resist 180℃ and reach an energy efficiency level higher than IE5. The advanced electromagnetic scheme and workmanship ensure high efficiency and low heat loss at same power. Although resisting 350℃, samarium cobalt magnetic steel can only reach energy efficiency level IE4.

Example: 22kW IE5 standard is 95.1%, measured: 96.5% IE4 standard is 94.8%



Reliable Intake Valve System

Unique structure design and reliable intake valve system: no oil-injection caused by emergency shutdown and sudden power outage.

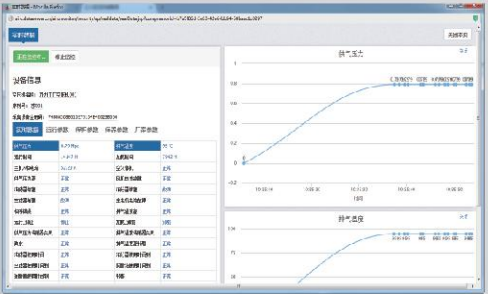


The oil and gas pipes of the whole machine are made of stainless steel or imported hoses: solid and durable. Sealed with thread and flat O-ring: easy dismounting and no leakage.



Need Internet of Things (optional)

Monitor operating status: instant reminder for user to replace consumables, reducing energy consumption (energy-saving efficiency: 5~10%)



VFT support

- The average 35% energy saved is adjustable in a wide range during air consumption fluctuations.
- No waste of air capacity during machine idle time and no gas leakage during normal operation.
- The air compressor can start or stop at full system pressure. No additional converter is needed.
- Lessen the impact on the power grid when the machine starts.
- Reduce system leakage caused by relatively low system pressure.
- Perfect combination of air compressor and converter.

Rear exhaust design inhaling rather than blowing

Ventilation by fan faster dissipation and less noise

Conventional fan directly blows the cooler: large resistance and huge noise. Rear ventilation: the cooler is vertically positioned, preventing dust from falling on the cooler. Note that dust will gradually clog the cooler in the long run. Further, if cooler is horizontally placed and water drips, the machine electric components will damage or burn up. Our design can avoid that.



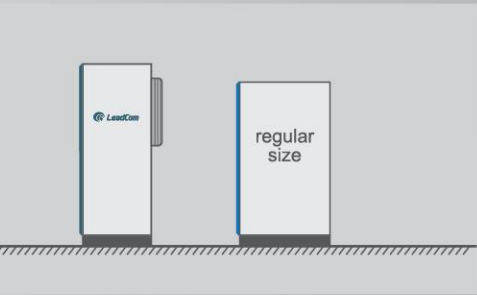
Easy design for replacing filter and cleansing

Easier maintenance: entirely discharging residual oil in the cooler while replacing filter.



Tall and slim design small footprint

Latest C-series: efficiently optimized for dimensions and component configurations, saving more space compared to conventional compressors.

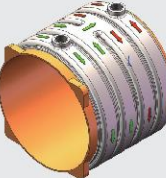


Our maximum energy-efficient rate 30%, an industry-leading figure. Normally, your CAPEX would be returned in 2 years!

Conventional Oil-cooled Motor



Oil passage head face welding: causes blowholes, deformation and oil-leak risk. Small zigzagged oil passage: large pressure differential. Square-shaped oil passage: in the 'dead corners', oil can't flow and calorification spots form. Oil passage is internally placed: can't repair and maintain.



New Oil-cooled Motor

Mold-forming: no welding points, no risk. Rotary oil passage circulation small pressure difference and oil runs on arc surface. Arc surface shaped oil passage well-distributed oil flow and cooling



CA-series Permanent Magnet VSD Air Compressor
Parameter Table

Model	CA7.5	CA11	CA15	CA22	CA37	CA55	CA75
Rate Power	7.5kW	11 kW	15kW	22kW	37kW	55kW	75kW
F.A.D	1.1m³/min	1.6m³/min	2.6m³/min	3.6m³/min	6.5m³/min	10.0m³/min	12.5m³/min
Pressure	≤0.8MPa For other pressure requirements (adjustable air capacity for various pressures), please contact your local distributor.						
Drive Type	PM Motor/Direct-driven						
Voltage/Frequency	AC380V-50Hz						
Starting Mode	Variable Frequency						
Connection	G1/2"	G1"	G1"	Rp1 -1/2"	G2"	G2"	G2"
Size(LxWxH)	954x600x1035mm	1100x720x1180mm	1100x720x1180mm	1280x920x1350mm	1580x1160x1600mm	1580x1160x1600mm	1580x1160x1600mm
Weight	155kg	245kg	285kg	445kg	920kg	990kg	990kg

EPM-series Permanent Magnet VSD Air Compressor
Parameter Table

Model	E7.5PM	E11PM	E15PM	E22PM	E37PM
Rate Power	7.5kW	11kW	15kW	22kW	37kW
F.A.D	1.0m³/min	1.6m³/min	2.3m³/min	3.5m³/min	6.2m³/min
Pressure	≤0.8MPa For other pressure requirements (adjustable air capacity for various pressures), please contact your local distributor.				
Drive Type	PM Motor/Direct-driven				
Voltage/Frequency	AC380V-50Hz				
Starting Mode	Variable Frequency				
Connection	G1/2"	G3/4"	G3/4"	G1"	Rp1-1/4"
Size(LxWxH)	850*600*840mm	1050*750*1040mm	1050*750*1040mm	1160*800*1150mm	1250*1030*1270mm
Weight	125kg	239.5kg	239.5kg	301kg	460kg



CTG-series 4-in-1 Permanent Magnet VSD Air Compressor
Parameter Table

Model	J7.5PMCTG		J11PMCTG			J15PMCTG			J22PMCTG		
Rate Power	7.5kW		11kW			15kW			22kW		
Pressure	0.8	1.0	0.8	1.0	1.6	0.8	1.0	1.6	0.8	1.0	1.6
F.A.D	1.1	0.9	1.6	1.4	1.0	2.6	2.0	1.5	3.6	3.0	2.3
Drive Type	PM Motor/Direct-driven										
Voltage/Frequency	AC380V-50Hz										
Starting Mode	Variable Frequency										
Connection	G3/4"		G3/4"			G3/4"			G1"		
Size(LxWxH)	1450x860x1585mm		1850x1030x1880mm			1850x1030x1880mm			1850x1030x1880mm		
Weight	350Kg		510Kg			510Kg			560Kg		



JPM-series High-efficiency Permanent Magnet VSD Air Compressor
Parameter Table

Model	Rate Power	MPa	m³/min	Size(LxWxH)	inch	Kg
J7.5PM	7.5kW	0.8	1.1	850x600x980mm	G1/2"	165
J7.5PM	7.5kW	1.0	0.9	850x600x980mm	G1/2"	165
J11PM	11kW	0.8	1.6	930x750x1205mm	G1"	238
J11PM	11kW	1.0	1.4	930x750x1205mm	G1"	238
J15PM	15kW	0.8	2.6	930x750x1205mm	G1"	238
J15PM	15kW	1.0	2.0	930x750x1205mm	G1"	238
J22PM	22kW	0.8	3.6	930x750x1205mm	G1"	282
J22PM	22kW	1.0	3.0	930x750x1205mm	G1"	282
J30PM	30kW	0.8	5.0	1100x940x1415mm	Rp1-1/2"	395
J30PM	30kW	1.0	4.3	1100x940x1415mm	Rp1-1/2"	395
J37PM	37kW	0.8	6.5	1100x940x1415mm	Rp1-1/2"	458
J37PM	37kW	1.0	5.4	1100x940x1415mm	Rp1-1/2"	458
J45PM	45kW	0.8	7.5	1150x990x1415mm	Rp1-1/2"	488
J45PM	45kW	1.0	6.5	1150x990x1415mm	Rp1-1/2"	488
J55PM	55kW	0.8	10.0	1580x1160x1600mm	G2"	860
J55PM	55kW	1.0	8.0	1580x1160x1600mm	G2"	860
J75PM	75kW	0.8	12.5	1580x1160x1600mm	G2"	930

※ We will constantly study and improve our products. The technical parameters are subject to modifications without further notice.
If you need the latest data, please contact us.
※ We accept orders for special specs and special voltages. For further information, please contact your local distributor or LeadCom.

 CPM-series High-efficiency Permanent Magnet VSD Air Compressor
Parameter Table

Model	Rate Power	MPa	m³/min	Size(LxWxH)	inch	Kg
C11PM	11kW	0.8	1.8	1150x800x1135mm	G1"	450
C15PM	15kW	0.8	2.2	1150x800x1135mm	G1"	480
C22PM	22kW	0.8	3.5	1150x800x1135mm	G1"	500
C30PM	30kW	0.8	5.0	1350x930x1255mm	G1-1/2"	650
C37PM	37kW	0.8	6.5	1350x930x1255mm	G1-1/2"	680
C45PM	45kW	0.8	8.0	1500x1125x1480mm	G1-1/2"	930
C55PM	55kW	0.8	10.0	1500x1125x1480mm	G1-1/2"	950
C75PM	75kW	0.8	13.1	1700x1200x1600mm	G2"	1150
C90PM	90kW	0.8	15.2	1900x1300x1900mm	G2"	1560
C110PM	110kW	0.8	20.0	2250x1500x1900mm	DN65	1700
C132PM	132kW	0.8	22.5	2250x1500x1900mm	DN65	1760
Drive Type	PM Motor/Direct-driven					
Voltage/Frequency	AC380V-50Hz					
Starting Mode	Variable Frequency					

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 CY-series High-efficiency Permanent Magnet VSD Air Compressor
Parameter Table

Model	C37T	C55T	C75T	T90PM	T110PM	T132PM
Rate Power	37kW	55kW	75kW	90kW	110kW	132kW
F.A.D	7.5m³/min	11.8m³/min	16.0m³/min	18.7m³/min	22.5m³/min	27.0m³/min
Pressure	≤0.8MPa For other pressure requirements(adjustable air capacity for various pressures), please contact your local distributor.					
Drive Type	PM Motor/Direct-driven					
Voltage/Frequency	AC380V-50Hz					
Starting Mode	Variable Frequency					
Connection	G1-1/2"	G1-1/2"	DN65	DN80	DN80	DN80
Size(LxWxH)	1520x1050x1500mm	1580x1160x1600mm	1700x1160x1720mm	2850x1840x2200mm		
Weight	525kg	1085kg	1135kg	3000kg	3500kg	3800kg

 CT-series Two-stage Compression High-efficiency Permanent Magnet VSD Air Compressor
Parameter Table

Model	C15Y	C22Y	C37Y	C55Y	C75Y
Rate Power	15kW	22kW	37kW	55kW	75kW
F.A.D	2.6m³/min	3.6m³/min	6.5m³/min	10.0m³/min	12.5m³/min
Pressure	0.8MPa				
Drive Type	PM Motor/Direct-driven				
Voltage/Frequency	AC380V-50Hz				
Starting Mode	Variable Frequency				
Connection	G1"	G1"	G1-1/2"	G2"	G2"
Size(LxWxH)	1050x600x1125mm	1050x600x1125mm	1200x650x1500mm	1580x1160x1600mm	1580x1160x1600mm
Weight	280kg	295kg	425kg	860kg	930kg

 G2-series Two-stage Compression High-efficiency Permanent Magnet VSD Air Compressor
Parameter Table

Model	Rate Power	MPa	m³/min	Size(LxWxH)	inch	Kg
G2-37PM	37kW	0.8	7.5	2050x1350x1500mm	G1-1/2"	1420
G2-45PM	45kW	0.8	9.2	2050x1350x1500mm	G1-1/2"	1550
G2-55PM	55kW	0.8	11.8	2150x1400x1730mm	G2"	1710
G2-75PM	75kW	0.8	16.0	2150x1400x1730mm	G2"	1820
G2-90PM	90kW	0.8	18.7	2850x1840x2200mm	DN80	3600
G2-110PM	110kW	0.8	22.5	2850x1840x2200mm	DN80	3700
G2-132PM	132kW	0.8	27.1	2850x1840x2200mm	DN80	3800
G2-160PM	160kW	0.8	31.9	3200x1995x2000mm	DN80	4200
G2-185PM	185kW	0.8	38.7	3500x2155x2360mm	DN100	4625
G2-200PM	200kW	0.8	41.5	3500x2155x2360mm	DN100	4965
G2-220PM	220kW	0.8	44.5	3500x2155x2360mm	DN100	5065
G2-250PM	250kW	0.8	50.6	4050x2310x2450mm	DN125	6350
G2-315PM	315kW	0.8	60.1	4870x2620x2850mm	DN125	7225
Drive Type	PM Motor/Direct-driven					
Voltage/Frequency	AC380V-50Hz					
Starting Mode	Variable Frequency					

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