

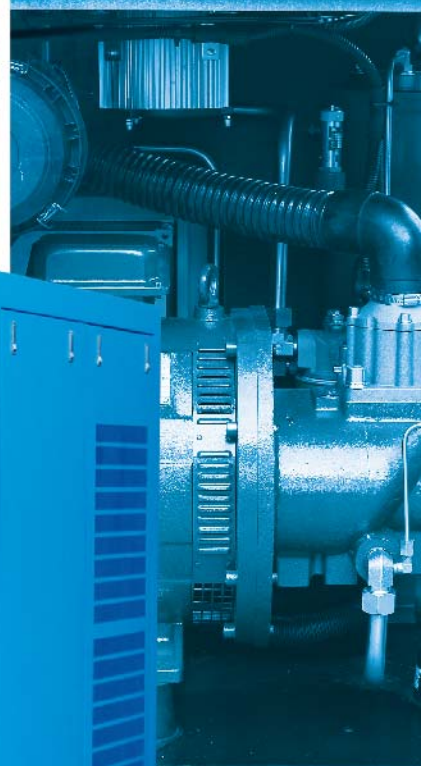
DENAIR®

**Variable Frequency
(standard, permanent magnet)
Oil Injected Screw Air Compressor**

Product Brochure



Energy Saving First Mutual Value Shared



Company Profile

Shanghai Denair (Group) Co.,Ltd is a Sino-German joint venture enterprise group integrating R&D,manufacturing and marketing. The company brought in advanced compressor R&D and manufacturing technology of Germany Denair Group to make product development and large-scale production, including piston air compressors, double screw air compressors, Diesel Portable Air Compressors, High and Medium Pressure Air Compressors, Oil-free Air Compressors and compressed air treatment equipment.

Shanghai Denair (Group) Co.,Ltd not only set up integrated R&D and testing center, but also passed ISO9001, CE, GC,NEETLC etc.

Meanwhile, Shanghai Denair Group Co.,Ltd created unique “Showroom+4S” sales and service mode in this industry. The sales and service network is divided into Domestic 8 areas: East China, South China, North China, Northwest China, Central China , Northeast China, Southwest China and Yangtze Delta and we set up offices in major cities of China to provide our customers with excellent and quick maintenance and repair services through our excellence service staffs.

Denair compressor also owns integrated sales and service network in the whole world including Africa, Southeast Asia, Middle East, Middle East, South America, North America and Oceania etc. with over 200 sales points.

Energy Saving First, Mutual Value Shared, Denair compressor is willing to be your best friend.



Quality Certificate Authentication



GC energy-saving certification



CE European Union standard certification



ISO9001 the United Kingdom LRQA Certification

DENAIR Variable Frequency (standard type, permanent magnet) Oil Injected Screw Air Compressor Series



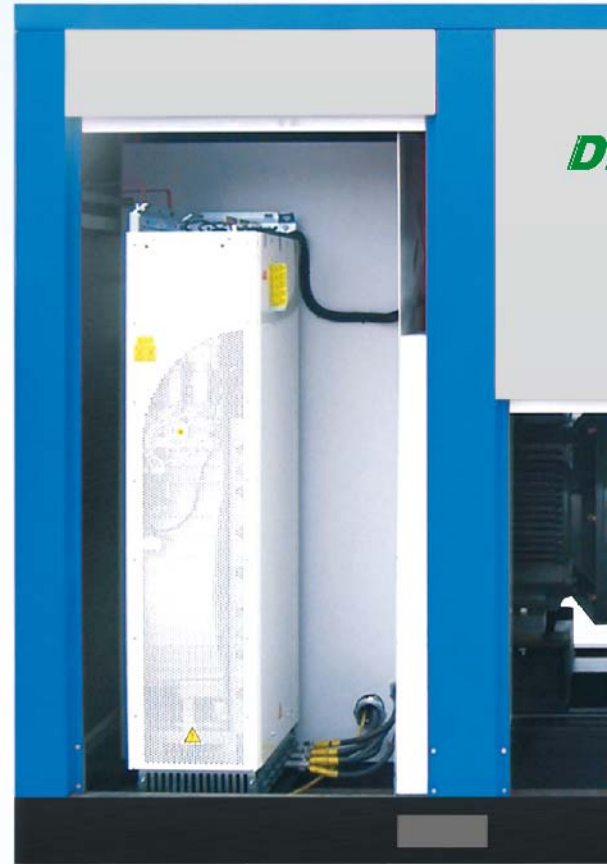
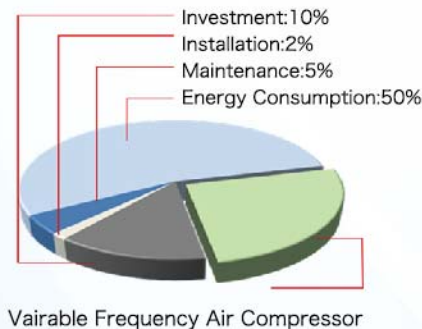
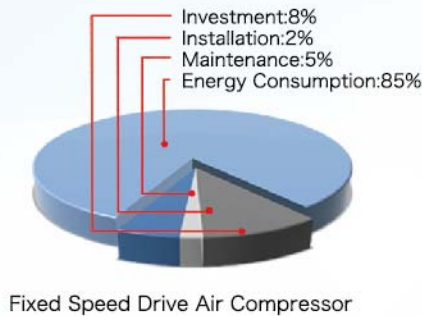
**Real Variable Frequency Control,
Better Performance On Energy Saving!**

DENAIR Standard Type Variable Frequency Oil Injected Screw Air Compressor

Standard Variable Frequency Oil Injected Screw Air Compressor Performance Advantages

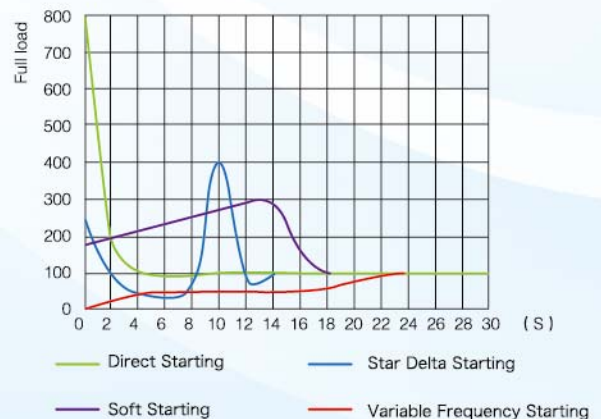
1、The value of the variable frequency compressor

Energy Saving:33% Power Consumption



2、Advantages of Starting

Variable Frequency soft start, smooth linear operation, no traditional direct start and Y- Δ starting peak current, effectively improve the motor and the electromagnetic contactor life, while avoiding the risk of being fined in line with electricity over power sector.





3、 Low noise

Source Of Compressor Noise

1. Air End Operation Noise
2. The fan operating noise
3. The main motor running noise

Improvement on the Machine by adopting Variable Frequency Type

1. As the operating frequency of Variable Frequency Type is less than Power Frequency Type, mechanical noise down and mechanical wear smaller.
2. If fan also adopting variable frequency driving, it can significantly reduce the noise while working

4、 Variable flow rate control

1. Frequency-driven compressor only with one displacement, Variable Frequency Type with displacements in a very large range. Frequency changer can control the displacement by adjusting the motor's speed based on the actual air consumption.
2. For Variable Frequency Type, compressor can be auto sleep condition while in less consumption, which can greatly reduce the loss of energy.
3. Optimized control way, which can better improve the energy saving effect.
4. Why the air flow can be controlled by adjusting speed?

$$n=60f/p(1-s)$$

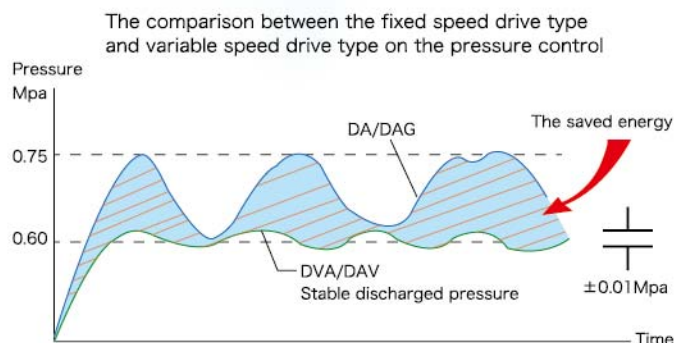
n: Motor speed f: Hertz p: Number of pole pairs of motor

s: Slip ratio of motor

DENAIR Standard Type Variable Frequency Oil Injected Screw Air Compressor

5. Stabilivolt

1. Variable Frequency Type Air Compressors can be softly starting by taking advantages of stepless governor features through the controller or PID adjuster inside of converter. For the working site that require air consumption with big fluctuations, this type air compressor can be quickly adjusting accordingly.
2. Comparing with power frequency type adopting Upper and lower control, the pressure stability for Variable Frequency Type will be exponential increase.



Note: It needs 6% more energy when the pressure increases by 0.1 Mpa.

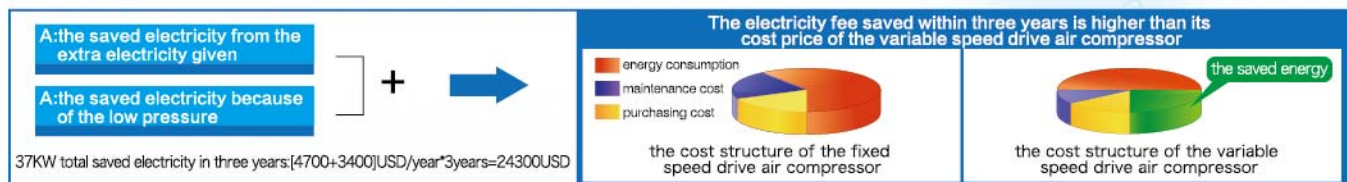
Technical Parameters

Model	Working Pressure(Mpa)	Air Delivery (m ³ /min)	Motor Power (KW)	Driving Mode	Dimensions(mm)			Weight(kg)
					L	W	H	
DVA-15	0.75	0.60 – 2.7	15	Belt Driven	1000	900	1150	450
	0.85	0.55 – 2.5	15		1000	900	1150	450
	1.05	0.50 – 2.3	15		1000	900	1150	450
	1.30	0.45 – 0.9	15		1000	900	1150	450
DVA-18	0.75	0.93 – 3.3	18.5		1000	900	1150	500
	0.85	0.87 – 3.2	18.5		1000	900	1150	500
	1.05	0.78 – 2.7	18.5		1000	900	1150	500
	1.30	0.66 – 2.3	18.5		1000	900	1150	500
DVA-22	0.75	1.11 – 4.1	22		1050	1200	1300	550
	0.85	1.05 – 3.7	22		1050	1200	1300	550
	1.05	0.93 – 3.3	22		1050	1200	1300	550
	1.30	0.81 – 2.8	22		1050	1200	1300	550
DVA-30	0.75	1.56 – 6.0	30		1050	1200	1300	600
	0.85	1.50 – 5.7	30		1050	1200	1300	600
	1.05	1.35 – 4.9	30		1050	1200	1300	600
	1.30	1.14 – 4.0	30		1050	1200	1300	600
DVA-37	0.75	1.95 – 7.1	37		1050	1200	1300	650
	0.85	1.86 – 6.9	37		1050	1200	1300	650
	1.05	1.68 – 5.9	37		1050	1200	1300	650
	1.30	1.47 – 4.9	37		1050	1200	1300	650
DVA-45	0.75	3.24-8.6	45	1200	1350	1500	800	
	0.85	3.00-8.0	45	1200	1350	1500	800	
	1.05	2.84-7.3	45	1200	1350	1500	800	
	1.30	2.44-6.1	45	1200	1350	1500	800	
DVA-55	0.75	4.16-10.6	55	1200	1350	1500	850	
	0.85	3.84-10.1	55	1200	1350	1500	850	
	1.05	3.40-8.7	55	1200	1350	1500	850	
	1.30	3.04-7.5	55	1200	1350	1500	850	
DVA-75	0.75	5.64-14.7	75	1500	1450	1600	1000	
	0.85	5.12-14.2	75	1500	1450	1600	1000	
	1.05	4.64-12.2	75	1500	1450	1600	1000	
	1.30	4.12-10.3	75	1500	1450	1600	1000	

Remarks: there will be a "+" following the models of direct driven type for this series, for example, 22KW direct driven variable frequency model is "DVA-22+"

6. Putting an end to the situation of using the high pressure on the low pressure application

1. Waste of High Pressure is very bad like too much for use. Normal Screw Air Compressor will be always loading and unloading in 6-8bars, but actually the working pressure is just 6bars, which means the extra more 2bars will let the air compressor cost more 14% energy (each single bar will cost more 7% current). Total extra more cost will be 70% based on the frequent loading time. For example, one unit of 37kw air compressor will more waste of 20,300 yuan per year because of this 70% frequent loading. But for the same machine, if it is variable type, it will keep 6bars working pressure to supply the air, which will result no more 2bars loading loss.
2. The loading wasting calculation way : 70% unloading time x (37kw x 14% which is because of the 2bars loading or unloading) x 8000hours/year x 0.7 yuan = 20,300yuan/year.



Technical Parameters

Model	Working Pressure(Mpa)	Air Delivery (m³/min)	Motor Power (KW)	Driving mode Cooling method	Dimensions(mm)			Weight(kg)	
					L	W	H		
DVA-90	0.75	6.40-16.0	90	Direct Driven Air Cooling	2150	1300	1550	1900	
	0.85	6.08-15.2	90		2150	1300	1550	1900	
	1.05	5.44-13.6	90		2150	1300	1550	1900	
	1.30	4.92-12.3	90		2150	1300	1550	1900	
DVA-110	0.75	8.40-21.0	110		2450	1600	1700	2500	
	0.85	7.92-19.8	110		2450	1600	1700	2500	
	1.05	6.80-17.0	110		2450	1600	1700	2500	
	1.30	6.12-15.3	110		2450	1600	1700	2500	
DVA-132	0.75	10.08-25.2	132		2450	1600	1700	2700	
	0.85	9.60-24.0	132		2450	1600	1700	2700	
	1.05	8.40-21.0	132		2450	1600	1700	2700	
	1.30	7.32-18.3	132		2450	1600	1700	2700	
DVA-160	0.75	11.48-28.7	160		Direct Driven Air Cooling or Water Cooling	2650	1600	1800	3600
	0.85	11.04-27.6	160			2650	1600	1800	3600
	1.05	9.84-24.6	160			2650	1600	1800	3600
	1.30	8.60-21.5	160			2650	1600	1800	3600
DVA-185 DVA-185W	0.75	12.80-32.0	185	2800		1500	1800	3700	
	0.85	12.16-30.4	185	2800		1500	1800	3700	
	1.05	10.96-27.4	185	2800		1500	1800	3700	
	1.30	9.92-24.8	185	2800		1500	1800	3700	
DVA-200 DVA-200W	0.75	14.04-35.1	200	2800		1950	2000	3850	
	0.85	13.40-33.5	200	2800		1950	2000	3850	
	1.05	12.08-30.2	200	2800		1950	2000	3850	
	1.30	10.60-26.5	200	2800		1950	2000	3850	
DVA-220 DVA-220W	0.75	16.48-41.2	220	2800		1950	2000	4450	
	0.85	16.00-40.0	220	2800		1950	2000	4450	
	1.05	14.20-35.5	220	2800		1950	2000	4450	
	1.30	12.88-32.2	220	2800		1950	2000	4450	
DVA-250 DVA-250W	0.75	18.60-46.5	250	2800	1950	2000	5150		
	0.85	18.40-46.3	250	2800	1950	2000	5150		
	1.05	16.24-40.6	250	2800	1950	2000	5150		
	1.30	14.72-36.8	250	2800	1950	2000	5150		

DENAIR Permanent Magnetic Variable Frequency Oil Injected Air Compressor

Meanings of Permanent Magnetic Variable Frequency

1. The Actual Factor of Permanent Magnetic Variable Frequency:Control the Rotation of Motor's Space Magnetic Field.
2. Basic Composition of Permanent Magnet Synchronous Motor:Stator Winding,Rotor,Unit.
3. Rotational Magnetic Field is generated by Stator Winding through the Three Phase Electric,which synchronize with the main frequency.
4. Rotor is a kind of permanent magnet which is made up of permanent magnet materials.It will rotate under the function of rotational magnetic field which is generated by stator winding.

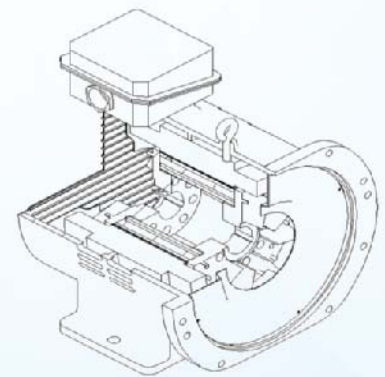


DENAIR Permanent Magnetic Variable Frequency Air Compressor Core Components

1、Efficient permanent magnet motors

Appearance Design

1. Obtain Appearance Design Patent:Certificate No.ZI 201330085626.3
2. Permanent Magnetic Motor Cooling Structure Patent Design,Application no:ZL 201320216379.0 Class F Insulation,Grade B Temperature rising.
3. Permanent Magnetic Motor Cooling Structure Patent Design,invention patent no.:ZL 201320216379.0 Class F Insulation,Grade B Temperature rising.
4. No bearing design——100% transmission efficiency.
5. Torque Perfect Linear Output.
6. Endurance Experiment up to five years,40000 hours endurance running without troubles.



2、 Efficient Permanent Magnet Air End(Compression Unit)

1. Adopted Rotor is made by Germany Processing Equipment,which can ensure the dimensional precision of parts
2. Adopting World Famous Brand SKF Bearing,extending the service life
3. Design for High Over-loading Working Condition,highest working pressure can reach 1.6Mpa
4. High Volumetric Efficiency
5. Low Noise
6. Stable Operation,Strong and Durable



Item	Traditional motor	Permanent magnet brushless efficient inverter motor
motor efficiency	< 92%	> 94%
Motor volume	Big	Small
Motor loadreacting	Slow	Quick
Motor torque curve	Non-linear output,slow rotation speed,weak torque output	Perfect linear output,slow rotation speed but still with powerful torque output
motor efficiency loss	Loss from bearing friction, rotor copper loss	No loss from bearing friction and rotor copper loss etc
Motor Maintenance	Bearings front and back need lubrication oil	No maintenance needed for the bearing
Safety of Motor	Wooden horse will be caused by bearing friction,fire,dust etc	No wooden horse will be caused by bearing friction,fire,dust etc
Compressor volume	Big based on the same horse power	Small based on the same horse power
The connection between motor and unit	Adopting belt,coupling etc will result in driving loss	Direct driving,no loss
Speed adjusting range of compressor	Small adjusting range (40-90%)	Big adjusting range (35-95%)
Ratio between capacity dissipation	Low(small space for energy saving)	High(big space for energy saving)

Greatly reduce the quantity of bears of motor,small parts make easier repair and maintenance,efficiently shorten the time for daily maintenance,bring down the maintenance cost regularly. No need to consider of the abrasion,repair and replacement's problem for the belt,gear and coupling.



DENAIR Permanent Magnetic Variable Frequency Oil Injected Air Compressor

1、 Intelligent Touch-Screen Design

Real-time observation of the compressor operation status: Host, fans, exhaust gas temperature, exhaust pressure, power output, total electricity consumption, fault messages, 24-hour customer service line.

Multifunction Design: Data curve, parameter settings, device information, data query.



Timer switch function can be implemented to avoid negligence leading to waste!



Historical data records, fault records and report output, ease of device usage information management.



2、 Unique Permanent Magnet Driver

High efficiency, detachable faceplate, switch use, with memory function.

Perfect protection: out of phase protection, inter phase short circuit protection, short circuit to earth protection, overcurrent protection, overvoltage protection, undervoltage protection, overload protection, overheat protection and motor heat protection.

Circuit boards enhancing coating, dust corrosion Independent Cooling Air Duct Design, hanging installation, Dust protection, corrosion protection, system with small heat.

Powerful overload capacity and unique technology for limiting current.

Proprietary efficient control program

Wide frequency design, control range wider.



3、 Oil Gas Separator

Adopt imported brand, ensure the oil content that will be less than 3ppm.

Overlong service life: 6000Hr~8000Hr



4、Oil Filter

Imported brand, filter the dirt in the lubricated oil reliably, oil particles can be controlled at 0.1 micron, ensure the smooth and well-lubricating oil system.



5、Air Filter

Imported brand, filter the dirt in the air reliably, dust particles can be controlled below 0.3 micron, filtering accuracy up to 99.99%.



6、Stainless Steel Piping Design

Stainless steel tubing designed to effectively prevent rust inside the pipe and so on. Calandria simple, beautiful appearance. Avoid piping due to leakage, and produce other security incidents.



Technical Parameters

Model		DAV-18A	DAV-22A	DAV-37A	DAV-45A	DAV-55A	DAV-75A	DAV-90A	DAV-110A	DAV-132A	DAV-160A	
Compressor	Air Delivery (m ³ /min)	7Bar	1.0-3.2	1.1-3.8	2.0- 6.8	2.3-7.8	3.2-10.5	4.1-13.5	5.0-16.5	7.0-21.0	7.2-24.1	8.7-29.0
		8Bar	1.9-3.0	1.0-3.6	1.8- 6.5	2.2-7.3	3.0-10.0	3.9-13.1	4.7-16.0	6.0-20.0	7.0-23.2	8.5-28.2
		10Bar	0.8-2.7	0.9-3.2	1.7- 5.6	1.9-6.6	2.6-8.8	3.5-11.8	4.2-13.9	5.1-17.0	6.1-20.5	7.9-26.5
		13Bar	0.7-2.3	0.8-2.8	1.4-4.6	1.7-5.7	2.4-8.0	3.0-10.0	3.7-12.3	4.4-14.8	5.3-17.8	6.8-22.5
	Outlet Temperature°C		Ambient Temperature +15°C									
	Outlet Pipe Diameter(inch)		1 1/4"	1 1/4"	1 1/2"	1 1/2"	2"	2- 1/2"	2- 1/2"	3"	3"	3"
	Transmission method		Direct Driven									
	Lubricated Oil Volume(L)		19		22.5		55	60	70	100	100	120
Air Delivery Control Method		0-100% Automatically Control										
Max Working Ambient Temperature°C		45°C										
Motor	Rated Outlet Power(KW)		18.5	22	37	45	55	75	90	110	132	160
	Connector		Top									
	Voltage(V)/Frequency(HZ)		380V / 50HZ / 60HZ									
	Type		Semi-closed IP23									
	Starting Method		Variable Frequency Starting									
Cooler	Cooling Method		Air cooling									
	Fan Power(KW)		0.25	0.37	1.5	1.5	1.5	1.5	0.75*2	0.75*2	1.5*2	3.0*2
	Exhaust Air Volume(m ³ /min)		50	75	125	185	194	194	320	470	500	650
Safety Indicating Device		Safety Valve, Exhaust High Temperature Protection, Exhaust High Pressure Protection, Over Current Protection, Less Phase Protection, Reversed Phase Protection										
Maintenance Indicating Device		Air Filter, Oil Filter, Oil-gas Separator, Lubricated Oil										
Microcomputer Controller		Digital Temperature, Pressure Display Controller, Fully Automatic Operation, Stop Controller Multi-machine Interconnection Controller(optional), Central Monitoring Extension Function(optional)										
Net Weight(Kg)		650	650	700	750	1500	1800	2000	2500	3000	3500	
Dimensions	L(mm)		1100	1100	1250	1300	1400	2100	2100	2500	2500	2700
	W(mm)		1000	1000	1100	1200	1400	1450	1450	1650	1650	1700
	H(mm)		1360	1360	1500	1600	1850	1650	1650	1850	1850	2000



DENAIR Perfect Global 4S Sales Service Network

- 1、 Sales Service System covers the whole China, and after-sales system is of nationwide warranty
- 2、 Our 200 abroad authorized distributors around the world construct the worldwide warranty system

Contact Us

R&D Center & Factory

Denair(Shanghai) Compressor Manufacturing Co.,Ltd.

Add: No.733 Wenbing Road, Songjiang Industry Zone, Shanghai, China

Sales Headquarters

Shanghai Denair Compressor Co.,Ltd

Add: 4th Floor, Building 5, Baosheng International

Fortune Center, No.18, Baosheng Road,

Songjiang District, Shanghai, China

Tel: (86-21) 37831829

Fax: (86-21) 60405929

Web: www.denairgroup.net

Email: export@denaircompressor.net