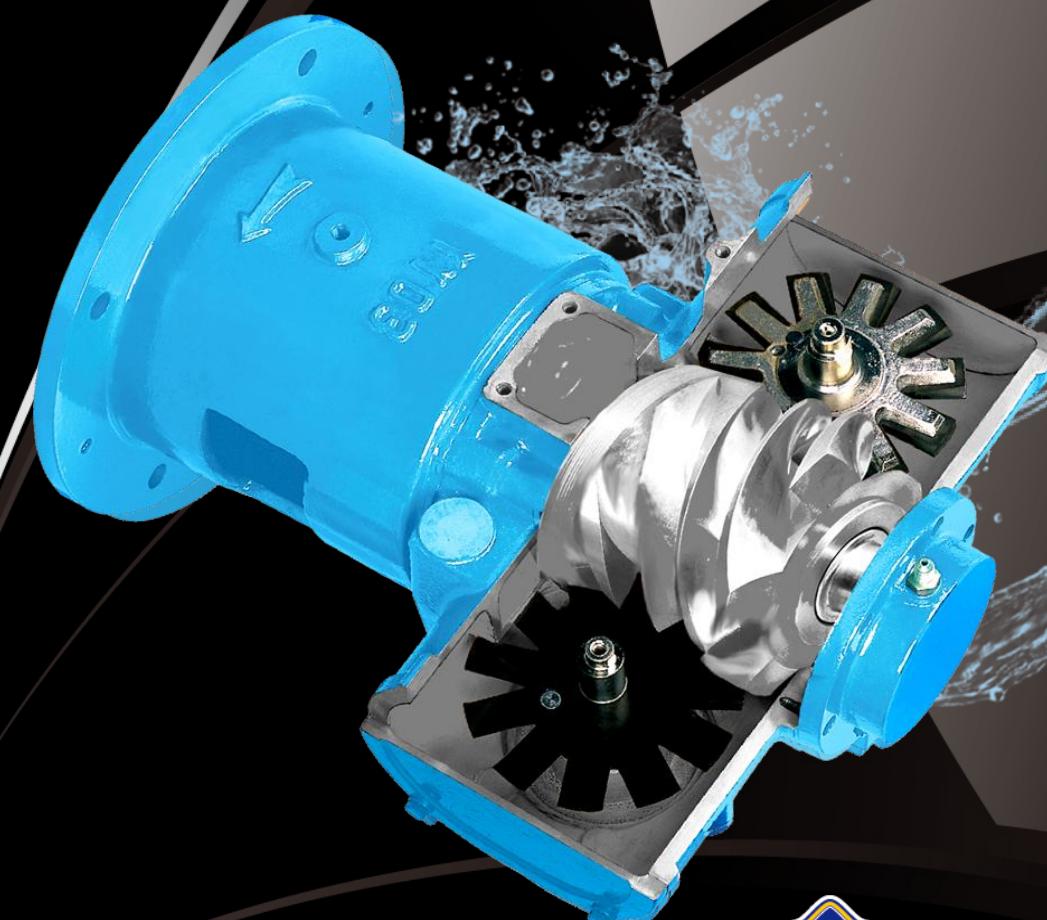


- First China micro oil injection single screw air compressor was manufactured in 1988. Water lubricated oil-free compressor was designed 10 years later and research and development of water-lubricated PET oil-free air compressor in 2008
- Assigned air compressor supplier for 2010 World Exposition and 2008 Olympics
- 《The general water injecting single screw air compressor》 Draft unit of industry standard

GAIRS®
GAIRS GROUP

Oil-free single screw air compressor with water lubricating

Range: 1m³ ~ 60m³ 0.2MPa~4.0MPa



GAIRS®

SHANGHAI GAIRS MACHINERY SALES CO., LTD

Add : No. 388, Tangming Rd, Shihudang Industrial Zone, Songjiang District, Shanghai
电话 (Tel) : 0086-21-57842923 15821005771 邮编 (PC) : 201617 (2020.9)
Http : www.gairs.cn E-mail : m18918525134@163.com / chencx@gairs-sales.com

Service Hotline : 0086-158 2100 5771



Environment friendly
Highly efficient Reliable



JIALISHI SONGJIANG INDUSTRIAL PARK

Company profile

Shanghai GAIRS Machinery Co., Ltd. (Hereinafter referred to as GAIRS) is a joint-stock business integrating science, industry and trading and is committed to the R&D and manufacturing of universal machinery. With a registered capital of RMB 67.8 million, an area of 68,000 m², and a construction area of 50,000m², GAIRS is located in the Songjiang Industrial Zone of the international metropolitan of Shanghai. It is the pioneer developing single-screw air compressor in China, the major drafter of national standard of General Oil Injecting Single-screw Air Compressor and the industrial standard of General Water Injecting Single-screw Air Compressor, the single-screw air compressor production/export base designated in the 11th Five-year Plan of the national compressor industry, vice-chairman unit of China General Mechanical Industry Association, vice-director unit of China General Mechanical Industry Association Compressor Branch, member unit of China Compressor Standardization Technology Committee, National Contract-honoring & Promise-keeping Enterprise and one of China's Top 500 Machinery Units; while GAIRS obtained 2006 Most Competitive Brand from the Ministry of Commerce, Shanghai Famous Trademark; GAIRS air compressor was named Shanghai Famous Brand Product and GAIRS water-lubricating oil-free single-screw air compressor passed the TÜV certification.



TÜV CLASS 0



CE



ISO 9001: 2015 Standard



ISO 14001: 2015 Standard



OHSAS 18001: 2007 Standard



4.0mpa certificate of invention patent



0.8-1.0mpa second class compression patent certificate



High-tech enterprise certificate



Golden Rewards of water lubricated oil-free single screw air compressor



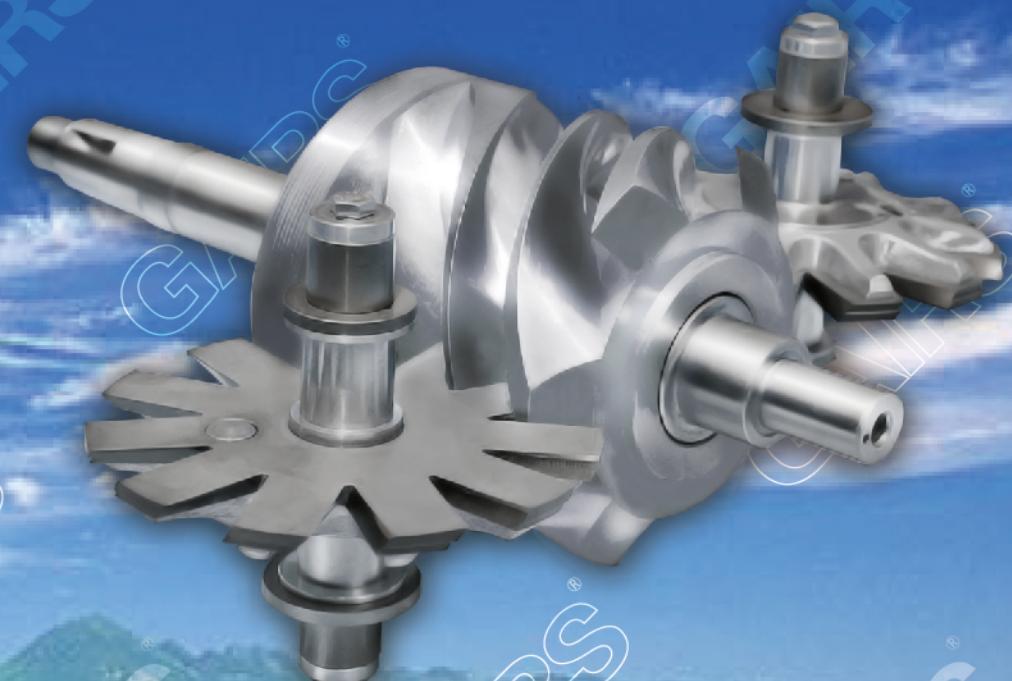
BRAND CHINA Authorized by Ministry of Commerce

Water Lubrication Oil-Free
Air compressor



INGENUITY FOR AIR

With 30 years' experiences in air compressor, 18 years' in inverter and top end control technology, Gairs developed OGWB Series/OGWY permanent magnetic inverter, and low/medium pressure water lubricating oil-free single screw air compressors which will meet higher air compressor standard requirements. The products are widely used in food processing, pharmaceutical production, fermentation, PET bottle blowing, fine chemicals, precision electronics and instrumentation control and other industries.



intelligent

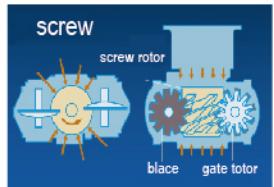
Efficient

environmentally
friendly

Working principle and characteristics of single screw compressor

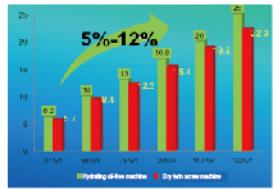
Simple constructionLow vibration

The single screw air compressor uses a single screw and two star wheels, one placed on either side of the screw. Radial and axial loads cancel each other, resulting in a theoretically zero load. This is the most advanced design structure of the single screw air compressor.



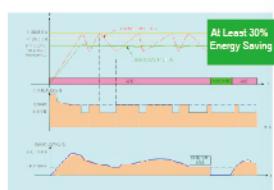
High efficiency

Firstly, single screw air compressor theoretically doesn't have any clearance volume. Secondly, the water used as a lubricating medium also seals gap inside the compression chamber, and enables high efficient operation at low speeds. Thirdly, using water as a cooling method keeps compressor ideal isothermal compression.



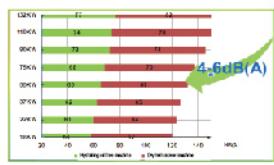
Energy saving

When the actual air usage is lower than rated air delivery, compressor consumes extra power without any air output during unloading. However, with inverter, compressor changes the rotation speed of motor depending on detected air pressure, resulting in energy saving.



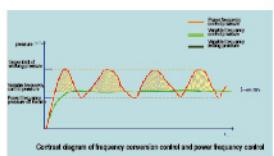
Less noise

First, the motor and screw are directly connected without any rotation gear to cause gear noise. Meanwhile, sound absorbing materials are also used in the equipment shell to reduce noise.



Stable air delivery

Depending on the valve of pressure sensor, the digital controller changes the motor rotation speed through inverter. That is how it controls the discharge air pressure to make stable air output.



Monitorable

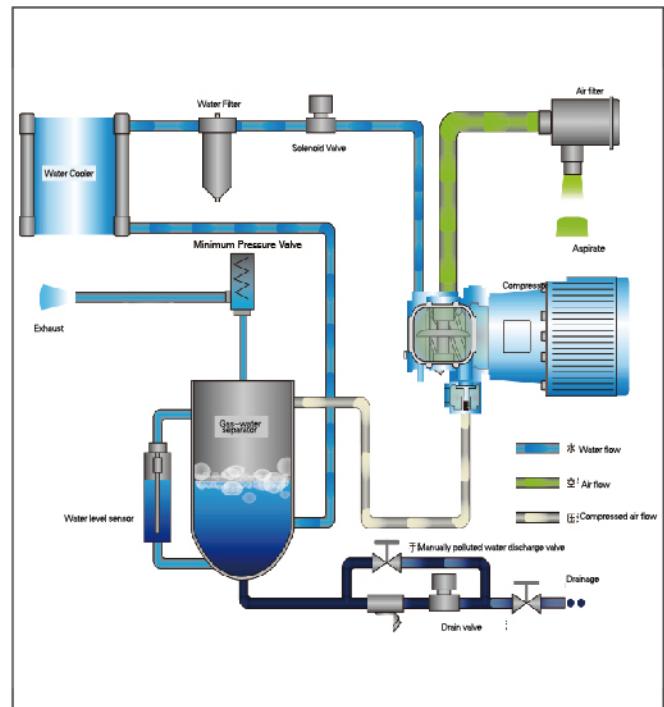
Intelligent monitoring is used to prevent accidents. Emergency alarm appears on computers and short messages will also be sent to managers. All these are substantial to the prevention of production accidents.



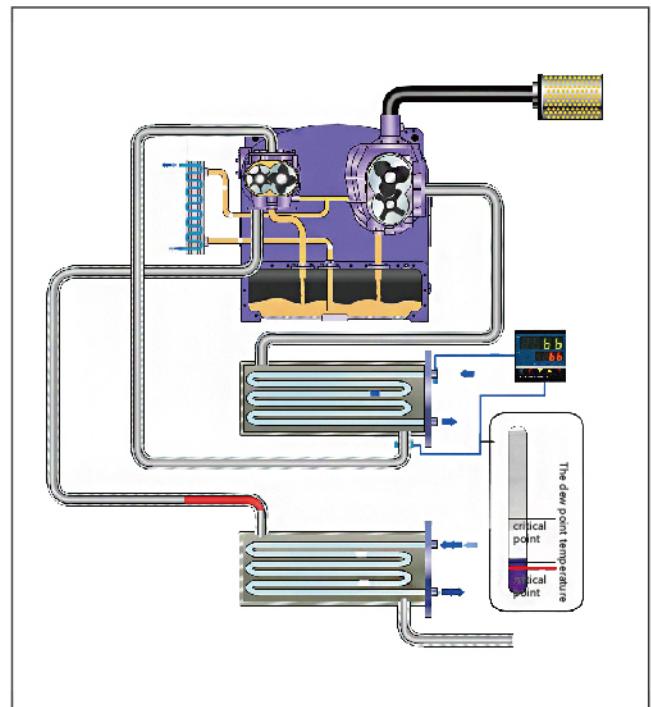
Comparison of water lubricated oil-free single screw air compressor and dry oil-free double screw air compressor

Comparison	Water lubricated oil-free single screw air compressor	Dry oil-free double screw air compressor
Air Discharge Temp.	Cool air discharge (about 50°C)	Hot air discharge (about 180–200°C)
Clearance Volume	Rotor has been used twice through one circulation, no clearance volume left.	Rotor has been used once through one circulation, existing clearance volume in main host.
Air Delivery	Ideal Isothermal Compression, air delivery volume is 5–12% more.	Energy lost due to hot air discharge, low air delivery volume
Efficiency	High efficiency, shaft power 5.5–6.0kW/(m³/min)	Low efficiency, shaft power 6.0–6.6kW/(m³/min)
Air Quality	Water sealing, completely no oil, safety air quality	Oil in the gear, high risk of air quality
Air Purity	Purified by water, clean air after separation	Directly compressed then discharge, containing dust and oil stain in discharged air.
Structure Balance	Radial and axial loads cancel each other	Radial load is not balanced
Noise and Vibration	Simple structure, low vibration and less noise. Normally: 60–65dB(A)	High frequency noise due to two screw grinding. Normally: 64–78dB(A)
Durability	Rotation speed 3000r/min, theoretically zero load, long lifetime of screw(30000h), star wheel (50000h)	Rotation speed 18000r/min, high loads on screws, short lifetime of screw (8000–18000h)
Installation	Only a few spare parts, can be installed and adjusted separately	Complex construction, needs special technical support for installation
Maintenance	Only replaced air and water filter, easy maintenance and low cost	Many spare parts and less maintenance circle, high cost

Water lubricating oil free single screw air compressor engineering flow chart



Double screw dry oil free air compressor engineering flow chart



COMPANY DEVELOPMENT HISTORY

GAIRS®

1988, Company was founded in Wenzhou. First OG series single screw micro-oil air compressor was designed and produced, breaking Euramerican long-time domination on Chinese market.

1988



China's micro oil injection single screw air compressor was manufactured

1998

1998, first oil-free water lubricated single screw air compressor came out, and the company launched OGWB series into the market on 2004.



0.7-1.2MPa Oil-free Water Lubricated Single Screw Air Compressor

2002

2002, OGWBD series low pressure (0.2-0.5MPa) oil-free water lubricated single screw air compressor was put onto the market.



0.2-0.5MPa Oil-free Water Lubricated Single Screw Air Compressor

2008

2008, World's first two stage, medium pressure OGWBE 4.0 MPa oil-free water lubricated single screw air compressor was designed and tested, unblocking the piston compressor's domination in medium pressure compressor field.



4.0MPa Oil-free Water Lubricated Single Screw Air Compressor

2016

2016, Our company research and development of OGWBC series (0.8MPa~1.0MPa) two-stage compression energy-saving water lubrication air compressor into the market in 2016.



Atmospheric pressure 0.8-1.0 MPa two-stage compression energy-saving single screw air compressor oil-free and water lubrication

OGWBD PERMANENT MAGNETIC FREQUENCY WATER LUBRICATING OIL-FREE AIR LOW PRESSURE COMPRESSOR

Water Lubrication
Oil-Free

Applicable to blow glass bottle, textile, pharmaceutical, food, beverage, electronics, spraying, etc



Model indexes :

O	G	W	B Y	E C	55	F S	D - 10 / 0.7
Screw	Water Lubricated	Permanent magnetic frequency conversion	Variable Frequency Start	Intermediate stage	Power	Air Cooled	Low pressure Displacement Pressure

Gairs Air Compressor

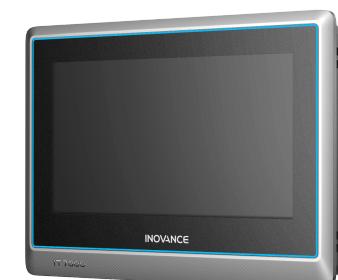
OGWBD Single Stage VSD Compressor (3-4 Bar)

Model	FAD Capacity	Discharge Pressure	Motor Rating	Lubricant Water/Cycle	Discharge Connection	Noise Level	Dimensions	Weight	Cooling Water Capacity	Cooling Method
	m³/min	MPa	kW	liter	inch	dB(A)			Ton/h	/
OGWB11FD	0.8-3.0	0.3	11	30	1 1/2"	58	1400 x 820 x 1500	620	/	Air
	0.6-2.4	0.4								
OGWB15FD	1.2-4.3	0.3	15	40	2"	60	1690 x 1000 x 1600	650	/	Air
	1.0-3.7	0.4								
OGWB22FD	1.8-6.1	0.3	22	60	2 1/2"	61	2000 x 1150 x 1670	1010	1200	Air
	1.4-5.0	0.4								
OGWB37F(S)D	3.1-10.0	0.3	37	80	2 1/2"	65	2450 x 1550 x 1850 2350 x 1250 x 1750	1010	8	Water
	2.5-8.5	0.4								
OGWB45F(S)D	4.2-13.5	0.3	45	100	3"	70	2450 x 1550 x 1850 2350 x 1250 x 1750	1500	9	Water
	3.1-10.0	0.4								
OGWB55F(S)D	5.3-17.5	0.3	55	100	4"	71	2700 x 1650 x 2020 2450 x 1450 x 1750	2200	10	Water
	4.1-13.5	0.4								
OGWB75F(S)D	7.1-23.0	0.3	75	120	4"	75	2700 x 1650 x 2020 2450 x 1450 x 1750	2450	15	Water
	6.4-20.0	0.4								
OGWB90F(S)D	8.7-27.0	0.3	90	150	5"	77	3500 x 2000 x 2100 2800 x 1500 x 2030	2600	17	Water
	7.5-24.0	0.4								
OGWB110F(S)D	10.5-33.8	0.3	110	150	5"	78	3500 x 2000 x 2100 2800 x 1500 x 2030	3000	20	Water
	8.7-28.0	0.4								
OGWB132F(S)D	14.0-45.0	0.3	132	200	6"	78	4000 x 2000 x 2350 3600 x 1700 x 2030	4500	25	Water
	10.8-35.0	0.4								
OGWB160F(S)D	16.2-52.0	0.3	160	250	6"	79	4000 x 2000 x 2350 3600 x 1700 x 2030	5000	28	Water
	13.4-43.0	0.4								
OGWB185SD	18.0-58.0	0.3	185	260	6"	79	3800 x 1700 x 2300	5000	35	Water
	18.0-45.0	0.4								
OGWB200SD	19.0-60.0	0.3	200	280	8"	79	3800 x 1700 x 2300	5000	37	Water
	19.0-48.0	0.4								

Please note:

1. OGWB55FD means an air-cooled unit, OGWB55SD means a water-cooled unit.
2. For Lubricant Water/Cycle, "Per cycle" typically refers to 500 running hours.
3. Cooling water capacity is only available with water-cooled units, and the water used should be reverse osmosis (RO) water.





INOVANCE HMI
TOUCH SCREEN



INOVANCE
INVERTER



INOVANCE PLC

OGWY PERMANENT MAGNETIC FREQUENCY WATER LUBRICATING OIL-FREE AIR COMPRESSOR

Water Lubrication
Oil-Free

ONE WORLD, PURER AIR



AT LEAST **30%** ENERGY SAVING

OGWY Single Stage VSD Compressor (7-10 Bar)

Model	FAD Capacity m³/min	Discharge Pressure MPa	Motor Rating kW	Lubricant Water/Cycle liter	Discharge Connection inch	Noise Level dB(A)	Dimensions L x W x H (mm)	Weight kg	Cooling Water Capacity Ton/h	Cooling Method
OGWY08F	0.5-1.3	0.7	7.5	20	3/4"	57	1100 x 750 x 1320	430		/ Air
	0.4-1.1	0.8								
	0.3-0.9	1.0								
OGWY11F	0.7-1.7	0.7	11	20	3/4"	57	1100 x 750 x 1320	450		/ Air
	0.6-1.5	0.8								
	0.5-1.3	1.0								
OGWY15F	1.0-2.5	0.7	15	25	1"	57	1370 x 820 x 1450	570		
	0.9-2.2	0.8								
	0.8-2.0	1.0								
OGWY18F	1.3-3.2	0.7	18.5	30	1"	58	1370 x 820 x 1450	620		
	1.1-2.8	0.8								
	1.0-2.5	1.0								
OGWY22F(S)	1.5-3.7	0.7	22	30	1"	60	1590 x 870 x 1500	690	5	Air or Water
	1.4-3.4	0.8								
	1.2-3.0	1.0								
OGWY30F(S)	2.1-5.3	0.7	30	40	1 1/2"	61	1690 x 1000 x 1600	980	6	Air or Water
	1.9-4.7	0.8								
	1.7-4.3	1.0					1590 x 950 x 1500			
OGWY37F(S)	2.5-6.2	0.7	37	60	1 1/2"	61	1690 x 1000 x 1600	1010	8	Air or Water
	2.2-5.6	0.8					1590 x 950 x 1500			
	2.0-5.0	1.0								
OGWY45F(S)	3.0-7.6	0.7	45	60	1 1/2"	65	2000 x 1300 x 1650	1110	9	Air or Water
	2.7-6.8	0.8					1590 x 950 x 1500			
	2.4-6.0	1.0								
OGWY55F(S)	4.0-10.0	0.7	55	80	2"	67	2450 x 1550 x 1850	1500 (F) 1200 (S)	10	Air or Water
	3.6-9.0	0.8					2300 x 1250 x 1600			
	3.1-7.8	1.0								
OGWY75F(S)	5.2-13.0	0.7	75	100	2"	71	2700 x 1650 x 2020	2000 (F) 1550 (S)	15	Air or Water
	4.8-12.0	0.8					2300 x 1250 x 1600			
	4.0-10.0	1.0								
OGWY90F(S)	6.7-16.8	0.7	90	100	2 1/2"	72	3100 x 1600 x 2000	2600 (F) 2250 (S)	17	Air or Water
	6.0-15.0	0.8					2450 x 1450 x 1700			
	5.6-14.0	1.0								
OGWY110F(S)	8.0-20.0	0.7	110	120	3"	74	3500 x 1650 x 2100	2800 (F) 2450 (S)	20	Air or Water
	7.4-18.5	0.8					2450 x 1450 x 1700			
	6.4-16.0	1.0								
OGWY132F(S)	10.0-25.0	0.7	132	120	3"	77	3500 x 1650 x 2100	4100 (F) 2450 (S)	25	Air or Water
	9.2-23.0	0.8					2450 x 1450 x 1700			
	8.0-20.0	1.0								
OGWY160F(S)	10.8-27.0	0.7	160	150	3"	78	4000 x 1700 x 2350	4500 (F) 2600 (S)	28	Air or Water
	10.2-25.5	0.8					2800 x 1500 x 1900			
	9.6-24.0	1.0								
OGWY185S	13.5-33.8	0.7	185	150	3"	78	2800 x 1500 x 1900	3000	35	Water
	12.4-31.0	0.8								
	11.2-28.8	1.0								
OGWY250S	17.2-43.0	0.7	250	200	4"	79	3600 x 1700 x 2030	4500	45	
	16.4-41.0	0.8								
	15.5-38.8	1.0								

Please note:

1. OGWY30F means an air-cooled unit, OGWY30S means a water-cooled unit.

2. For Lubricant Water/Cycle, "Per cycle" typically refers to 500 running hours.

3. Cooling water capacity is only available with water-cooled units, and the water used should be reverse osmosis (RO) water.

OGWBC TWO STAGE PERMANENT MAGNETIC FREQUENCY LUBRICATING OIL-FREE SINGLE SCREW AIR COMPRESSOR

Water Lubrication
Oil-Free

Continuous innovation of national brands



AT LEAST **25%** ENERGY SAVING

Gairs Air Compressor

OGWYC Two Stage VSD Compressor (8-10 Bar)

Technical parameters for ogwbe products with inverter water lubricating oil-free normal pressure compressor

Model	FAD Capacity	Discharge Pressure	Motor Rating	Lubricant Water/Cycle	Discharge Connection	Noise Level	Dimensions	Weight	Cooling Water Capacity	Cooling Method	
									m³/min	MPa	kW
OGWYC90S/F	20	0.8	55+37		120	65	75	3500 x 1650 x 2100 3000 x 1600 x 2100 4000 x 2000 x 2350 3000 x 1600 x 2100	3500 3370 3500 3370	20	Air Water
OGWYC120S/F											
OGWYC120S/F	24	0.8	75+45		130	65	78	4000 x 2000 x 2350 3000 x 1600 x 2100 4000 x 2000 x 2350 3000 x 1600 x 2100	3550 3450 3600 3450	25	Air Water
OGWYC140S/F											
OGWYC165S	30	0.8	90+75		150	80	80	3000 x 1600 x 2100	3500	26	Water
OGWYC180S		1.0	90+90							30	
OGWYC185S	36	0.8	110+75		180	100	80	3600 x 2000 x 2100	4500	35	Water
OGWYC200S		1.0	110+90							37	
OGWYC200S	40	0.8	110+90		200	100	80	3600 x 2000 x 2100	4500	37	Water
OGWYC220S		1.0	132+90							38	
OGWYC240S	45	0.8	132+110		230	100	80	3600 x 2000 x 2100	4700	38	Water
OGWYC270S		1.0	160+110							40	
OGWYC270S	50	0.8	160+110		250	125	80	3800 x 2000 x 2100	5000	40	Water
OGWYC290S		1.0	160+132							43	
OGWYC330S	60	0.8	220+110		290	125	80	3800 x 2000 x 2100	5800	50	Water
OGWYC355S		1.0	220+132							53	

Please note:

1. OWGYC90F means an air-cooled unit, OWGYC90S means a water-cooled unit.
2. For Lubricant Water/Cycle, "Per cycle" typically refers to 500 running hours.
3. Cooling water capacity is only available with water-cooled units, and the water used should be reverse osmosis (RO) water.



Food



Pharmaceuticals



Electronics

OGWBE POWER SAVING TWO STAGE WITH INVERTER WATER LUBRICATING OIL-FREE SINGLE SCREW AIR COMPRESSOR

Water Lubrication
Oil-Free

Pet bottle blowing machine saves energy and environmental friendly, revolutionizes industry



Gairs Air Compressor

OGWBE Two Stage VSD Compressor (20-40 Bar)

Technical parameters for two stage ogwbe products with inverter water lubricating oil-free medium-pressure

Model	FAD Capacity	Discharge Pressure	Motor Rating	Lubricant Water/Cycle	Discharge Connection	Noise Level	Dimensions	Weight	Cooling Water Capacity	Cooling Method
									kg	Ton/h
OGWBE55S/F	6	2.0	37+15	86	25	70	3000 x 1400 x 1700	1820		Air
OGWBE60S/F		3.0	22+37				2900 x 1400 x 1700	1400	12	Water
OGWBE75S/F		4.0	45+30	92			3000 x 1400 x 1700	2000		Air
OGWBE75S/F	10	2.0	55+22	110	32	73	2900 x 1400 x 1700	2000		Water
OGWBE90S/F		3.0	55+37				3100 x 1600 x 2000	2100		Air
OGWBE110S/F		4.0	55+55	120			2900 x 1400 x 1700	2100	15	Water
OGWBE110S/F	13	2.0	75+30	135	40	75	3600 x 1750 x 2000	3000		Air
OGWBE120S/F		3.0	75+45				3500 x 1500 x 1730	2200	17	Water
OGWBE150S		4.0	75+75	148			3600 x 1750 x 2000	3000		Air
OGWBE130S	16	2.0	90+37	160	40	77	3500 x 1500 x 1730	2300	17	Water
OGWBE150S		3.0	75+75				4000 x 1750 x 2030	3500		Air
OGWBE180S		4.0	90+90				3500 x 1500 x 1730	3000	24	
OGWBE165S	20	2.0	110+55	172	50	78	4000 x 1700 x 1800	3000	27	
OGWBE185S		3.0	110+75				3500 x 1500 x 1730	4000	35	
OGWBE220S		4.0	110+110	185			4000 x 1750 x 2030	4000	38	
OGWBE200S	24	2.0	132+65	200	50	78	3500 x 1500 x 1730	4500	38	
OGWBE220S		3.0	132+90				4000 x 1800 x 2000	4500	38	
OGWBE270S		4.0	160+110				3500 x 1500 x 1730	4600	45	
OGWBE235S	28	2.0	160+75	210	65	78	4000 x 1800 x 2000	4600	46	
OGWBE270S		3.0	160+110				3500 x 1500 x 1730	4700	46	
OGWBE320S		4.0	160+160	225			3500 x 1500 x 1730	4800	55	
OGWBE290S	36	2.0	200+90	220	65	80	4300 x 2000 x 2100	5000	60	
OGWBE330S		3.0	200+132	260			3500 x 1500 x 1730	5000	65	
OGWBE380S		4.0	220+160	290			3500 x 1500 x 1730	5000	70	
OGWBE330S	40	2.0	220+110	280	65	80	4300 x 2000 x 2100	5000	85	
OGWBE380S		3.0	220+160	300			3500 x 1500 x 1730	5000		
OGWBE440S		4.0	280+160	360			3500 x 1500 x 1730	5000		

Please note:

1. OGBE60F means an air-cooled unit, OGBE60S means a water-cooled unit.
2. For Lubricant Water/Cycle, "Per cycle" typically refers to 500 running hours.
3. Cooling water capacity is only available with water-cooled units, and the water used should be reverse osmosis (RO) water.