

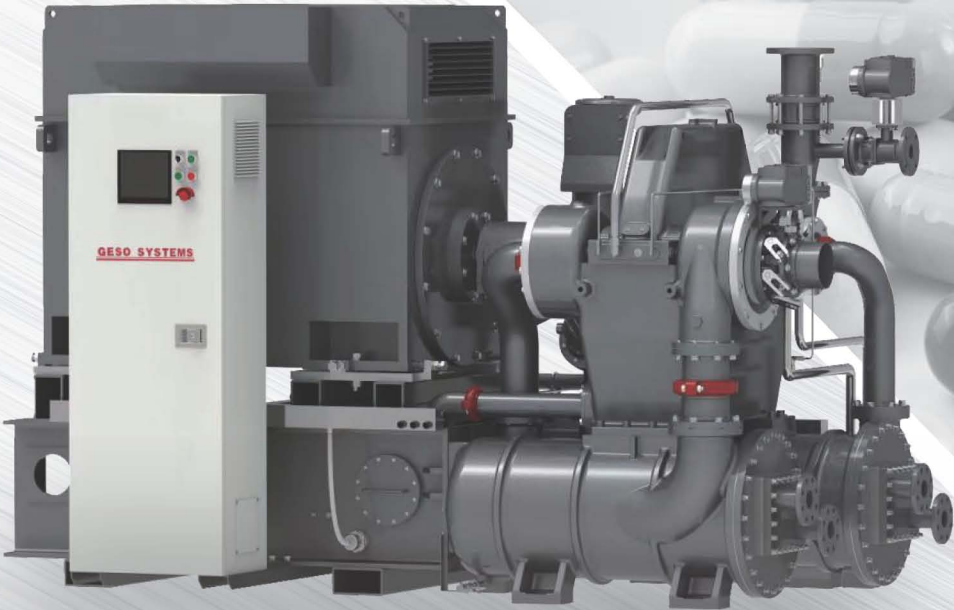
Domestic Office Locations in China

| Region:            | Province:                       | Address:   |
|--------------------|---------------------------------|--|
| Northeast Region   | Heilongjiang Province           | Intersection of Republican Road and Shijiao Road,Hulan District,Harbin City,   |
|                    | Liaoning Province               | 113 Nanjing North Street, Heping District, Shenyang City, Liaoning Province  |
|                    | Shanghai                        | No. 15, Lane 38, Caoli Road, Jinshan District, Shanghai  |
|                    | Zhejiang Province               |  |
| Eastern China      | Jiangsu Province                | Room 8609, 6th Floor, Building 3, JinJulong Building, No. 9 Gaohu Road, Jiangning District, Nanjing City, Jiangsu Province       |
|                    |                                 | Room 307, No. 58 Huyang Road, Hushuguan Town, Huqiu District, Suzhou City, Jiangsu Province                                      |
|                    | Anhui Province                  | No.1 Heping Road, Development Zone, Chizhou City, Anhui Province   |
|                    | Shandong Province               | 1912, East Unit, Building 4, Lemeng Center, Huaiyin District, Jinan City, Shandong Province                                      |
|                    | Jiangxi Province                | Guangzhou Road East China International Industrial Expo City, Qingyunpu District, Nanchang City, Jiangxi Province                |
|                    | Fujian Province                 | G324 National Highway Qianjin Xijing Yili, Houxi Town, Jimei District, Xiamen City, Fujian Province                              |
| North China        | Beijing                         |  |
|                    | Tianjin                         |  |
|                    | Shanxi Province                 | Room 1204, Building 10, Junyue International, Daxing District, Beijing   |
|                    | Hebei Province                  |  |
|                    | Inner Mongolia                  | Room 204, Unit 2, Building 11, Yurong Guandi, Shahe West Street, Jiuyuan District, Baotou City, Inner Mongolia Autonomous Region |
| Central China      | Henan Province                  | No.39, 3rd Floor, Greenland Yuansheng International 3C, Jinshui District, Zhengzhou City, Henan Province                         |
|                    | Hubei Province                  | Room 1304, Unit 1, Building 16, Vision Cheng B, Jiangjun Road Street, Dongxihu District, Wuhan City, Hubei Province              |
|                    | Hunan Province                  | 268 Wanjiali Road, Yuhua District, Changsha City, Hunan Province   |
| South China        | Guangdong Province              |  |
|                    | Guangxi Province                | Room 1504, Block B, Aoyuan Central Plaza, Jingang Avenue, Nansha District, Guangzhou City, Guangdong Province                    |
|                    | Taiwan Province                 |  |
| Southwest of China | Chongqing                       |  |
|                    | Tibet                           | 1801, Building 8, City Garden, Yubei District, Chongqing   |
|                    | Yunnan Province                 | Science and Technology Innovation Park, No. 3 Jingkai Road, Kunming Economic Development Zone                                    |
|                    | Guizhou Province                | Building 2, Financial Street, Nanming District, Guiyang City, Guizhou Province   |
|                    | Sichuan Province                | Building 9, Wanjiangfeng Phase II, No. 8 Shangya Road, High tech West Zone, Chengdu City   |
| Northwest of China | Shanxi Province                 | Room 20707, Building 1, Lijun V, Fengcheng 1st Road and Weiyang Road, Weiyang District, Xi'an City, Shaanxi Province             |
|                    | Qinghai Province                |  |
|                    | Gansu Province                  | Inside the Yongding Center Market in Anding District, Dingxi City, Gansu Province  |
|                    | Ningxia Province                | Building 4, South District of Helan Red River Valley, Yinchuan, Ningxia  |
|                    | Xinjiang UygurAutonomous Region | 556 Beijing South Road, Xinshi District, Urumqi, Xinjiang  |

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In the spirit of innovation, the company will continuously optimize its products. Therefore, we reserve the right to modify product specifications without prior notice.  
Components may be replaced with no lower than the same grade, and the actual product shall prevail.

GESO SYSTEMS

Centrifugal Compressor  
Air | Nitrogen Pressurization



Shanghai Geso Systems Industrial PLC

GESO SYSTEMS

Shanghai Geso Systems Industrial PLC  
Address:No.15,Lane 38,Cao Li Road,Jinshan District,Shanghai,China  
Website: www.gesosystems.net TEL: +86 21- 57895398







## Company Profile

### Superior Quality and Intelligent Future

Geso is a global aerodynamic systems group of companies, wholly owned by BAE GESO SYSTEMS, headquartered in London, United Kingdom, and a leader in the European gases sector.

BAE Systems, the parent company of Geso Group, was founded in 1871 and is committed to the research, development and production of industrial gases. In 2002, BAE Systems set up a representative office in China, importing products from the United Kingdom to China and deploying after-sales service offices in China, and in 2018 BAE Systems established a wholly-owned company "Shanghai Geso systems Industrial PLC" and invested 11 million U.S. dollars to build an intelligent production and manufacturing center. In R&D, production and market expansion. Our products include energy-saving screw air compressors, nitrogen/oxygen generators, dry oil-free air compressors, water-injected oil-free air compressors, mobile air compressors, process gas compressors, medium and high pressure screw air compressors, centrifugal air compressors, etc, which are widely used in various industrial production. The group has three companies, "Shanghai Geso systems Industry PLC", "Jiangsu Geso Equipment Co. Ltd.", "Shanghai Geso Energy Equipment Co. Ltd." more than 30 branches and offices and more than 200 distributors nationwide, providing high-quality intelligent and energy-saving air compressor system solutions for various industries energy-saving programs to reduce users' cost of use to ensure users' satisfaction and energy-saving effect. We have been selected as one of the top ten brands for three consecutive years by third-party organizations such as China Brand Network. As a global aerodynamic system.



# GESO SYSTEMS

Inheriting the advanced technology and production management mode of BAE Systems and combining it with China's market demand in order to ensure the production safety of users, Geso Group strictly follows the product development process of the Group, and each new product undergoes 40 test items and 3,000 hours of durability test to ensure the quality of the products from the source. Selecting IE5 energy-saving motors, ABB electronic control system, and three-stage frequency conversion energy-saving system to reduce energy consumption and CO2 emissions, meanwhile, through the optimized design and lowering the speed of the machine, it saves the cost for the customers and realizes small investment and big power. Self-developed intelligent Internet of Things (IoT) technology realizes convenient interconnected management with air compressors through computers, cell phones and iPads to realize automatic and precise supply and meet the experience of unattended automation.

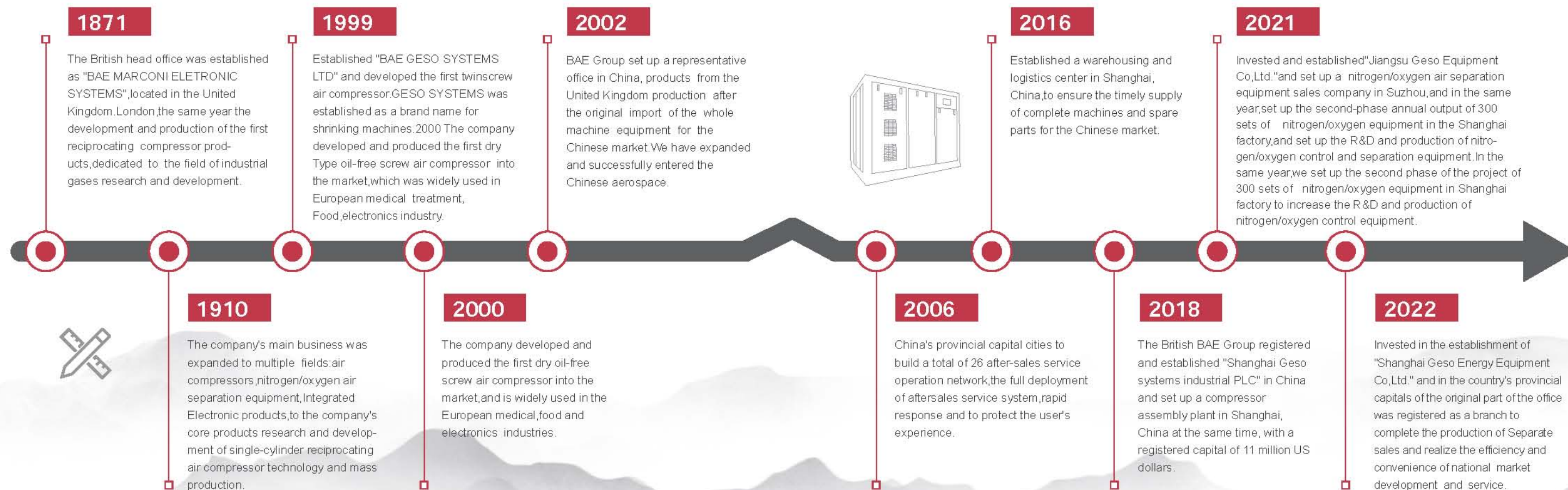
As a wholly foreign-owned enterprise, it is also the authorized production and assembly base of screw compressors for BAE Systems in UK. We have obtained ISO9001 quality system certification, ISO45001 occupational health and safety management system certification, ISO14001 environmental management system certification, certificate 0 oil-free certification, EU CE certification, energy efficiency certification of air compressors, 3A integrity system certification and other certificates, which fully guarantee the safety of users.

Through years of high-speed development, Geso Group has service outlets in more than 200 cities across the country, 24-hour service hotline response and internet warranty service, and thirteen direct spare parts warehouses to provide customers with repair services in a more rapid and timely manner. After-sales service is not limited to the product itself, but also includes compressed air system testing and optimization, air compressor intelligent air supply control, waste heat recovery, frequency conversion energy-saving piping, cables, construction of turnkey projects and a series of complete set of systematic services. Based on our service concept we promise lifelong. We are exempt from labor charges, provide free training services for customers, regularly test the data of users' energy efficiency reports, and develop group of companies, we carry the mission of innovation, quality and service. Whether it is energy saving and environmental protection or intelligent, always adhere to the praise of customer experience as the center of the hard working people. Geso, to build a globally recognized brand of fluid machinery, and continue to be the industry leader in high-end energysaving products.





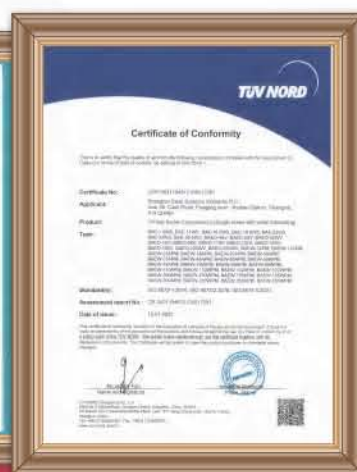
# Milestones



## Certificates



CE certiate-EMC



CERT IND-PC-C2108017



CE certiate-MD



CERTIFICATES

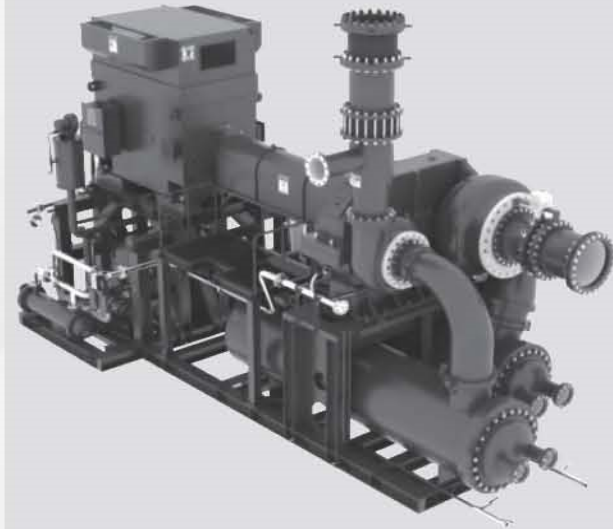




## ★ Oil-free Principle

Based on the working principle of centrifugal compressors, Geso's entire series of centrifugal compressors and blower air systems.

It is a completely independent working system from the oil system, Based on the working principle of centrifugal compressors, Geso's entire series of centrifugal compressors and blower air systems fundamentally ensuring that the compressed air is absolutely oil-free.



### Safe and reliable

- Fewer moving parts and low failure rate
- The rotor has been strictly dynamically balanced to ensure the lowest vibration
- Efficient sealing ensures lower leakage

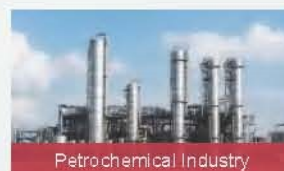
### High efficiency and energy

- Dynamics optimized design to ensure the most efficient operation of working parts and systems
- Advanced impeller design, optimal unit efficiency and wider control range

### 20 years long life

- Geso product design is scientific and rigorous, and after strict material selection, the design life of the whole machine exceeds 20 years

## Applications



## Air System

The filtered gas enters the inlet of the unit and is accelerated by the high-speed rotating impeller, which increases the gas flow rate. The high-flow gas passes through the diffuser, converts its speed energy into pressure and temperature, and enters the gas cooler to release excess heat. This process is repeated at each successive stage until the required operating pressure and temperature are reached.

### Intake Guide Vane

- The electric intake guide vane valve can accurately control the opening of the guide vane, thereby accurately adjusting the inlet air volume.



### High Efficiency Cooler

- Large flow design, surface coating treatment.
- It adopts the design of water leakage in the pipe and air leakage in the shell, which is easy to clean, corrosion-resistant and not easy to scale.
- The cooler core is removable for easy maintenance and cleaning.
- Excellent cooling effect, adaptable to various complex working conditions.



### Pipe

- The grooved pipe fitting method does not damage the inner wall of the pipeline, and the original characteristics of the pipeline are not affected.



- It has the characteristics of flexibility, which makes the pipeline resistant to earthquakes, telescopicity and expansion, high stability and easy maintenance.

- The pipelines are designed for large flow, and the transition between pipelines is smooth to minimize the pressure drop.





### Transmission system and sealing

The unit adopts a horizontally split design, which is convenient for disassembly and assembly and subsequent maintenance.

The gearbox is made of high-performance ductile iron material and is integrally cast with anti-rust and anti-corrosion treatment on the surface to ensure a long service life.

#### 01 Impeller

It is made of aviation-grade titanium alloy material (equivalent to the material of aircraft turbine engine inlet blades) with a three dimensional backward curved design and is milled as a whole. It has excellent aerodynamic performance and ensures the best efficiency of the unit. 115% overspeed experiment.



#### 02 Tilt pad bearing

There are removable pads inside the bearing, which facilitates repair and reduces maintenance costs. The five-petal tilting pad bearing ensures that the rotor can operate smoothly under different loads and temperatures.



03

#### Double Diaphragm Coupling

No backlash, maintenance-free, all-steel coupling.

Low wear, strong deviation compensation ability, no maintenance required.

Simple structure, light weight, easy installation, small moment of inertia and high transmission torque.

Laminated flexible coupling, high diaphragm strength, high temperature resistance, long working life and stable performance.



04

#### Large And Small Gear Sets

Gear Association aviation grade standard

Reasonable design and high-precision manufacturing requirements ensure perfect gear meshing and transmission, and also ensure the interchangeability of gears.

Unidirectional helical gear, forged from alloy steel, tooth surface precision ground after carburizing, surface nitriding treatment.



05

#### Pinion Thrust Ring

The pinion thrust ring transmits the axial thrust directly to the large gear, greatly reducing the meshing force of the small gear, increasing the life of the gear, and reducing mechanical losses at the same time.



06

#### Labyrinth Seal

100% oil-free

The non-contact design of aluminum alloy seals and rotating parts ensures horizontal splitting, simple maintenance, longer service life, and safer and more reliable work.



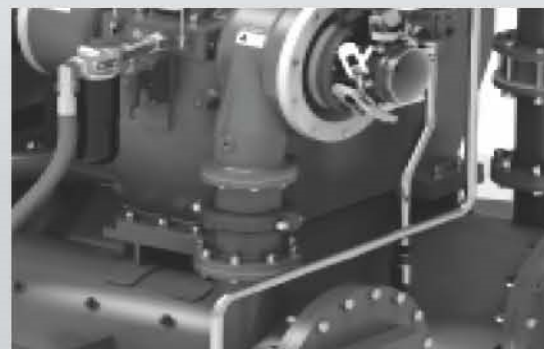


### Lubrication System

- A complete lubrication system is a strong guarantee for the stability of the centrifugal compressor.
- The fuel tank, fuel pump, accessories and connecting elbows are carefully designed and selected from materials.
- Reliable, clean, energy-saving, and redundantly protected lubricating oil system, every detail shows quality.

### Lubricating Oil Pipeline Design

- All are made of sanitary grade SUS304 stainless steel tubes and are designed in one-step molding without welding points.
- No fluid flow dead center.
- No processing residues in the tube
- Ensure there are no leaks and minimal pressure drop when the machine is running.



### Main Oil Pump

- The main oil pump adopts an over-flow design to ensure that the unit can stop safely in the event of a sudden power outage, ensuring that the machine has no leakage points and minimal pressure drop during operation.



### Oil Mist Extraction System

- Effectively prevent lubricating oil from oxidizing and extend lubricating oil service life.
- Electrically controlled, low-noise blower eliminates in-duct processing residue on instrument air supply.
- Ensure there are no leaks and minimal pressure drop when the machine is running.



### Tank

- High-strength carbon steel, internal anti-corrosion coating treatment.
- High-strength, large-capacity design.



### Auxiliary oil pump


- Electrically driven, interlocked with the unit's start switch to ensure that the unit is fully lubricated before starting up and when shutting down.





## Stand-alone Plc Control system

| Overall Control Cabinet   | LCD Screen  | Automatic Mode  |
|---|---|---|
| The control interface is clear and easy to understand, and the touch screen operation is simple and fast. | Display various parameters and real-time data monitoring to ensure reliable operation of the equipment. | When the gas volume fluctuates greatly, the gas volume is adjusted by the IGV, when the gas volume continues to decrease, load/unload control is used. Really achieve on-demand energy consumption. |



## Multi Machine Intelligent Centralized Control System



**Online control:**  
Multiple compressors can be jointly controlled to realize a true compressed air network and improve gas quality and production efficiency.

**Energy efficiency optimization:**  
Customers can choose analysis software to conduct operation monitoring, fault warning, and energy efficiency analysis for each air compressor.



## Modular Design

Geso centrifugal compressors are provided with standard integral skid mounting.

For special installation occasions, we provide a unique modular design, where the main body, cooler, fuel tank, motor, and control cabinet are designed as separate modules. It has the characteristics of convenient transportation, installation and maintenance.

### Overall Skid Installation



### Separate Assembly

- Split assembly is mainly suitable for small spaces and other special installation occasions.
- Installation issues are taken into consideration for each module in the early stages of design, and a modular design is adopted to make the assembly quality more stable.
- At the customer's site, the machine can be assembled in a very short time.
- Each module can be transported and installed separately, which greatly reduces the volume and weight of transportation and installation, and reduces transportation costs.



### Centrifugal Compressor Specifications

| Model | Working Pressure (bar) | Air Delivery (m³/min) | Power (Kw) | Dimensions |       |       | Weight (kg) |
|-------|------------------------|-----------------------|------------|------------|-------|-------|-------------|
|       |                        |                       |            | A(mm)      | B(mm) | C(mm) |             |
| BALS  | 4-9                    | 20-45                 | 110-240    | 3050       | 1900  | 2500  | 4000        |
| BALO  | 1.5-4                  | 40-95                 | 140-280    | 2850       | 1850  | 1850  | 4200        |
| BALM  | 4-9                    | 45-90                 | 250-500    | 3150       | 2050  | 2500  | 6500        |
| BALL  | 2-12                   | 40-105                | 220-500    | 3350       | 2050  | 2500  | 8500        |
| BALV  | 2-25                   | 80-220                | 300-1200   | 4350       | 2150  | 2750  | 10000       |
| BALA  | 2-25                   | 220-400               | 1050-2000  | 4550       | 2300  | 2800  | 16500       |

### Compressor Air/Nitrogen Specifications

| Model | Working Pressure (Mpa) | Air Delivery (Nm³/H) | Power (Kw) | Dimensions |           |           | Weight (kg) |
|-------|------------------------|----------------------|------------|------------|-----------|-----------|-------------|
|       |                        |                      |            | L(mm)      | W(mm)     | H(mm)     |             |
| BALN  | 0.3~2.5                | 12000~240000         | ≤ 20000    | 7050-12100 | 4050-5200 | 4600-5100 | 46000~90000 |

### Booster Air/Nitrogen Specifications

| Model | Intake pressure (Mpa) | Exhaust pressure (Mpa) | Air Delivery (Nm³/H) | Power (Kw) | Dimensions |          |           | Weight (kg) |
|-------|-----------------------|------------------------|----------------------|------------|------------|----------|-----------|-------------|
|       |                       |                        |                      |            | A(mm)      | B(mm)    | C(mm)     |             |
| BALH  | 0.3~1.0               | 1.6-8.0                | 12000~100000         | ≤ 20000    | 6050-10100 | 4550-650 | 3050-4600 | 28000~85000 |



Geso provides a full range of services to provide customers with contract energy management.

