

Preface

This instruction manual applies only to the single pump of the vacuum pump, and not to the composite technology of the vacuum pump unit. However, the single pump on the vacuum pump unit still applies to this instruction manual. Our company was founded in 1934, the birthplace of the first vacuum pump in China. Providing users with high-quality products and striving to offer you lifelong after-sales service is our consistent philosophy. Lifelong service includes helping you understand the working principles of vacuum pumps, correct installation methods, maintenance procedures, equipment operation training, and providing vacuum technology solutions to eliminate any troubles caused by unfamiliarity with vacuum pumps and vacuum technology. Therefore, please read this instruction manual carefully. While maintaining product quality, our company also focuses on technological innovation, and several products have obtained national patents for their structure and appearance. Due to the timing of the preparation of this manual, there may be discrepancies between some product appearances and structures and those described in this manual. We will make amendments in future editions. Thank you for your understanding.

I. Structural Principles and Scope of Application

1. Structural Principles

This series of vacuum pumps is a type where the motor is directly connected to the pump body. It features a compact structure, small size, light weight, low vibration, low noise, easy startup, and high pumping vacuum degree.

The vacuum pump is composed of two single - stage vacuum chambers connected in series, divided into a high - grade vacuum chamber and a low - grade vacuum chamber by a middle wall. Each of the two vacuum chambers is equipped with a rotor and a pair of vanes. The rotor is an assembled integral part with a shaft and is non - detachable. The middle wall has a positive eccentricity structure. When the rotor rotates, the centrifugal force drives the vanes, which cling to the inner wall of the vacuum chamber

under the action of the spring force. This causes the volume of the intake chamber to expand periodically for suction, and the volume of the exhaust chamber to shrink periodically for compressing gas. At the same time, the compressed gas and oil push open the exhaust valve for exhaust, thereby achieving vacuum. When the inlet pressure is high, the two - stage chambers can exhaust simultaneously; when the inlet pressure is low, the gas is discharged from the high - grade chamber to the low - grade chamber and then out of the pump.

This series of vacuum pumps adopts air cooling and does not require cooling water.

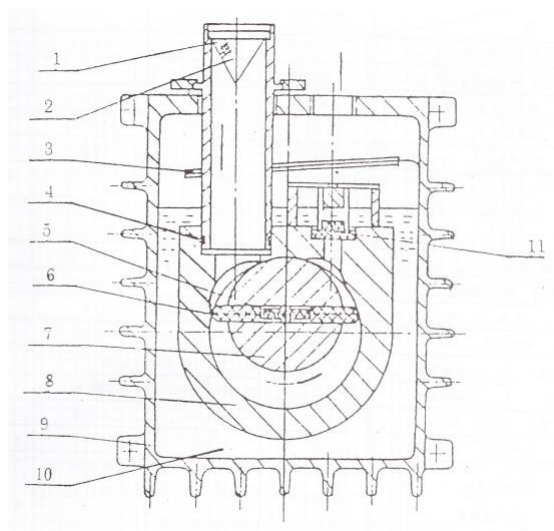
The vacuum pump is designed with a gas ballast valve. Its function is: when the gas ballast valve adjusting cap on the gas ballast valve is rotated counterclockwise to open, a certain amount of air is filled into the exhaust chamber. At this time, the partial pressure of the steam during exhaust decreases. When the partial pressure of the steam is lower than the saturated vapor pressure at the pump temperature, it can be discharged out of the pump along with the filled air, thus avoiding the moisture of the discharged gas mixing into the pump oil and extending the service life of the pump oil. However, when the gas ballast valve is open, the ultimate pressure will decrease and the pump temperature will rise. When the gas ballast valve adjusting cap is closed, the pumping chamber is in a sealed state, which can prevent pump oil backflow and air backflow, making the pump easy to start, preventing damage to the pump parts, and extending the trouble - free operation time of the pump.

Note: During installation, try to make your intake pipe higher than the pump's air inlet to maintain a height difference.

The 2 - liter and 4 - liter models in this series are available in single - phase and three - phase power supply versions. The model with the suffix "D" is suitable for single - phase 220V power supply, and the model without the suffix "D" is suitable for three - phase 380V power supply. For example: 2XZ - 2 and 2XZ - 2D. 2XZ - 2 uses 380V power supply, and 2XZ - 2D uses 220V power supply.

The model with the suffix "B" is an improved version of the one without "B". For example: 2XZ - 2 and 2XZ - 2B. 2XZ - 2B is an improved version of 2XZ - 2.

Structure Principle Diagram:



Structure Principle Diagram of 2XZ Series

1. Air Inlet 2. Filter Screen 3. Oil Baffle 4. Air Inlet Nozzle Seal Ring 5. Spring 6. Vane 7. Rotor 8. Stator 9. Oil Tank
10. Vacuum Pump Oil 11. Exhaust Valve Plate

2. Application Scope

This series of products can be used alone, as the backing pump for booster pumps, diffusion pumps, molecular pumps, etc., and also as the pre - pumping pump for holding pumps and titanium pumps.

It is suitable for supporting equipment such as electric vacuum device manufacturing, thermos bottle manufacturing, vacuum welding, vacuum packaging, vacuum forming, vacuum suction, precision instruments, etc., and is more suitable for laboratory use.

It can pump a certain amount of condensable gas. It shall not be used in occasions with dust, corrosive substances, excessively high oxygen content, flammable, explosive, or toxic gases, and shall not be used as a compression pump or transfer pump.

For 2 - liter pumps: when the flow rate $\leq$ rated flow rate and the inlet pressure $\leq 1330\text{Pa}$; for pumps above 4 - liters: when the flow rate $\leq$ rated flow rate and the inlet pressure $\leq 1330\text{Pa}$; and when the ambient temperature is within the range of 5 - 40°C, continuous operation for a long time is allowed.

When the relative humidity of the pumped gas is $\geq 80\%$, the gas ballast valve should be opened. When the air inlet is continuously open to the atmosphere, the operation time should be less than 1 minute.

II. Main Technical Performance and Specifications

1、2XZ Series Direct - Coupled Rotary Vane Vacuum Pump

Model	2XZ-2 2XZ-2D	2XZ-2B 2XZ-2BD	2XZ-4 2XZ-4D	2XZ-4B 2XZ-4BD	2XZ-8	2XZ-8B	2XZ-15B
Pumping Speed at Single - phase 220V 50HZ (L/s)	2	2	4	4	/	/	/
Pumping Speed at Three - phase 380V 50HZ/60HZ (L/s)	2/2. 4	2/2. 4	4/4. 8	4/4. 8	8/	8/	15/
Ultimate Pressure (Gas Ballast Open) (Pa)	≤1. 33					≤5	
Ultimate Pressure (Gas Ballast Closed) (Pa)	6×10 ⁻²	2×10 ⁻²	6×10 ⁻²	2×10 ⁻²	6×10 ⁻²	4×10 ⁻²	
Ultimate Total Pressure (Gas Ballast Open) (Pa)	≤7				≤7		
Ultimate Total Pressure (Gas Ballast Closed) (Pa)	≤2				≤1		
Motor Power (kW)	0. 37		0. 55		1. 1		2. 2
Motor Speed 50HZ/60HZ (r/min)	1430/1750				1430/		
Pump Oil Temperature Rise (°C)	≤40				65		70
Maximum Operating Temperature (°C)	90				100		120
Oil Consumption (Reference) (L)	0. 61		0. 8		1. 8		2. 2
Vibration Reference Value (μ)	≤80						
Noise (Three - phase/Single - phase) (dB)	54/67		55/68		76/		80/
Net Weight/Gross Weight (with Three - phase Motor) (kg)	17/18	23/24		25/27	53/55	75	95

Note: The voltage of 2XZ - *D or 2XZ - *BD is single - phase 220V, and the voltage of 2XZ - * or 2XZ - *B is three - phase 380V.

III. Installation Instructions

1. After unpacking, please check the items in the box according to the "Packing List" and inspect the appearance of the pump to avoid damage that may have occurred during logistics.
2. Be sure to remove the protective packaging of the inlet and outlet during installation.
3. The pump should be installed in a dry, ventilated, and clean place. During installation, maintain a space of more than 300mm between the pump and the wall or other objects. From delivery to use, the pump should be stored in a specified place (a dry, clean, and vibration - free room). If the storage time exceeds four years, or if the pump is not stored in the specified place and the storage time exceeds two years, the bearings need to be lubricated.
4. The pump and motor should be installed horizontally on the foundation. If the pump feet have mounting bolt holes, use anchor bolts for fixed installation. After tightening the anchor bolts, recheck the level of the pump and motor to avoid inclination due to uneven ground.

Note: After rechecking the level, manually turn the belt to check if the pump rotates flexibly.

5. All connecting pipelines must be free of leaks and must be cleaned first to avoid iron filings, rust, welding slag, dust, etc. Therefore, it is recommended to install a fine mesh filter in the intake pipeline.
6. The diameter of the pipeline connecting the pumped container should be greater than or equal to the inlet caliber of the pump. Minimize the installation distance and the number of elbows of the pipeline. After pipeline installation, check for leaks. If rubber hoses are used for connection, select desulfurized rubber hoses.
7. The diameter of the pipeline connecting the pump's exhaust port should be equal to or smaller than the inlet caliber of the pump; otherwise, the exhaust pressure will increase, causing leakage at the pump's sealing parts.
8. For pumps with belt drive, ensure that the large and small pulleys are in the same vertical plane, and the tension of the V - belt should be moderate.
9. When the pump is working in a dusty condition: to prevent the pump from being damaged by dust, particles, or chemically active gases, it is recommended to install a suitable filter at the pump's air inlet.
10. When the pump is working in a condition with a large amount of steam: the condensable gas pumped will condense in the colder pipeline. Therefore, to prevent the condensed liquid from flowing back into the pump chamber, consider installing a condenser and a drain valve during pipeline installation.

11. When the pumped gas is corrosive: the gas must be treated before entering the pump's air inlet.
12. When the temperature of the pumped gas is high ($\geq 35^{\circ}\text{C}$): the gas must be cooled before entering the pump's air inlet.
13. When the pumped gas contains a large amount of liquid: a gas - liquid separator must be installed at the pump's air inlet.
14. When starting with the atmosphere open, frequent starting, long - time pumping of gas with high pressure, or when the gas ballast is open, a small amount of oil mist will be discharged. You can connect a pipeline to the exhaust port to guide the oil mist away from the working area or install a suitable oil mist filter.
15. The pump is equipped with a device that improves oil return after shutdown and can keep the pump port in a vacuum state for a short time to facilitate the next startup. However, for occasions where oil return causes troubles due to your use process, it is recommended to install an electric or manual vacuum stop valve and a vacuum charging valve at the pump's air inlet. The installation method refers to the note in Section 1 "Structure Principle" of Chapter I. It is required that the new pump should not return oil to the pump's air inlet within 4 hours after shutdown.
16. If you install the pump in a chassis, be sure to keep the air inlet channel for the cooling fans of the pump and motor, and the exhaust channel for the pump's exhaust outlet.
17. Some series of pumps are not filled with oil in the pump chamber for easy transportation. After installation, inject vacuum pump oil through the oil filling port, and the oil level should be above 1/2 of the oil window.

18. Installation Inspection

After installation, all pipelines, especially the suction side pipelines, must be thoroughly cleaned to prevent objects such as welding slag, scale, and rust from entering the pump. After installation or maintenance, check to ensure:

All fastening bolts and connecting components are securely connected.

The rotating parts are properly protected against contact (such as the coupling guard).

Note: Excessively high oil level will cause oil injection, and excessively low oil level will cause abnormal exhaust noise. If abnormal exhaust noise occurs, add oil to 5mm above the center line of the oil level gauge.

Install the power cord and switch according to the motor nameplate and the marks on the junction box.

Pay attention to the direction of rotation of the motor. From the end of the motor fan, the fan should rotate clockwise.

19. Preparation Before Test Run

The following applies only to empty or dry pumps (i.e., during initial startup, after repair, or when restarting after a long shutdown during operation).

20. Startup

It is recommended to start according to the following steps:

Check whether all bolts of flanges, joints, and valves on the pipeline are tightened.

Open the suction pipe gate valve, if installed.

Open the gate valve on the exhaust pipeline, if installed.

Check the operation during startup.

After startup, read the pressure status value and preferably record it.

When the pump just starts, check the temperature of the components (especially bearings and shaft seals) until the temperature reaches a stable state, and make a record.

21. Shutdown

1. Turn off the motor and close the intake pipe gate valve.
2. Once the operation stops, immediately close the gate valve on the exhaust pipeline, if installed.

Note: In the frost season, drain the liquid in the pump body, separator, and all pipelines to avoid cracking the cooling water jacket.

22. When the power is connected, from the end of the motor fan, the direction of rotation of the motor should be clockwise. If reverse rotation is found, swap any two of the three power supply wires for connection.

IV. Instructions for Use

1. Check the pump's oil level before starting the pump every day to ensure it is at the center line of the oil level gauge. Fluctuations in the oil level after startup are normal.
2. Check the pump oil before starting the pump every day. Observe whether the color of the pump oil is normal. If it turns black or white (emulsified), replace the vacuum pump oil in the pump immediately. The replacement method is: unscrew the oil drain plug, drain the pump oil from the oil tank into a prepared container, tighten the oil drain plug, then unscrew the oil filling plug, and

add new vacuum pump oil to the center line of the oil level gauge. It is recommended to filter the oil product during refueling to avoid debris entering the pump and blocking the oil path.

3. Check whether bolts, gaskets, etc. are loose or damaged every month.
4. Check whether the oil seal is damaged every six months.
5. After operating for 1000 - 1500 hours, inspect the friction surfaces of the vacuum pump: for rotary vane pumps, check the inner wall of the pump chamber for wear and galling. If wear or galling is found, repair it in a timely manner.
6. After operating for 2500 - 3000 hours, the pump must be disassembled for inspection, repair, cleaning, and gap adjustment.
7. When the pump is operating in a set of vacuum systems, refer to the relevant clauses in the "Safety Warnings" when starting and shutting down.
8. If a solenoid valve, vacuum stop valve, and vacuum charging valve are installed at the pump's air inlet, the solenoid valve or vacuum stop valve should be started and shut down simultaneously with the pump.
9. After the pump has been operating for 30 minutes, the ultimate vacuum parameters of the pump are shown in the corresponding column of Chapter II "Main Technical Performance and Specifications".
10. When the ambient temperature is high, the oil temperature in the pump chamber will also rise, the viscosity of the vacuum pump oil will decrease, and the saturated gas will increase. At this time, the ultimate pressure will decrease. It is recommended to strengthen the ventilation and heat dissipation of the pump or replace the vacuum pump oil with a higher grade.
11. When the relative humidity is high or the pumped gas contains a lot of condensable gas, open the gas ballast valve and close it after operating for 30 - 40 minutes.
12. During operation, if the pumped gas or pump oil contains condensable gases such as water vapor, open the gas ballast valve and operate until it reaches a normal working state.
13. Before shutting down after work, open the gas ballast valve and run it idly for 30 minutes to extend the service life of the pump.
14. In severe cold winters, after shutdown, drain the cooling water in the pump's water jacket to avoid cracking due to freezing.
15. When starting up in winter, run it idly for more than 15 minutes; in other seasons, run it idly for

more than 5 minutes.

V. Maintenance

1. Oil Change

Replace the vacuum pump oil after the new pump has been operating for 100 - 200 hours.

Replace the vacuum pump oil every 1000 - 1500 hours of operation thereafter.

Recommended oil grade: "Shangzhen" special oil.

If the vacuum pump oil does not turn black or white, replace it every six months.

Oil change method: Start the pump and run it for 30 minutes to thin the vacuum pump oil. Stop the pump and drain the oil from the oil drain hole. Then open the air inlet and run it for 10 - 20 seconds. At the same time, slowly add a small amount (30 - 50ml) of new vacuum pump oil from the air inlet. If the discharged vacuum pump oil is very dirty, repeat the process until the discharged oil is relatively clean.

Note: Do not rinse with cleaning fluid; do not mix with oils with high saturated vapor pressure such as diesel and gasoline, so as not to reduce the ultimate pressure.

2. Safety Precautions During Pump and Pipeline System Maintenance

Ensure that the maintenance to be performed will not have adverse effects on the system.

Ensure that the motor is turned off and cannot be started accidentally.

Ensure that there is no pressure in the corresponding pipeline system and that there are protective measures.

Ensure that when the pipeline system is opened, the pumped or supplied medium will not cause any dangerous situations.

3. Regular Inspection

To detect and correct potential faults as soon as possible, regular and careful maintenance and inspection are essential, which can avoid further damage.

1. Due to the great difference in working conditions, only general inspection and maintenance cycles can be recommended. These inspection and maintenance cycles must be adjusted according to the specific installation site, considering factors such as the quality of working conditions, the frequency of equipment startup, and the load.
2. Under normal operating conditions, it is recommended to inspect the pump every month. The inspection items are as follows:

There is no obvious pollution in the pumped medium or working fluid (see Cleaning).

The technical data meet the requirements (power, temperature, etc.).

There is no obvious leakage.

Whether the pump operates smoothly and whether the bearing rotation noise is normal.

There are no foreign objects in the valves, filters, and screens; otherwise, remove them and determine the next inspection cycle.

When the cleaning cycle of the exhaust chamber, screen, and filter is not very short, the maintenance under specified operating conditions can be carried out together with the addition or replacement of lubricating oil.

In addition to the above inspections, during the inspection, it is also necessary to check:

The rotor components are within the allowable clearance.

All fastening bolts are not loose.

Note: The vanes can be removed, but the rotor is an assembled integral part and is non - detachable.

4. Cleaning

It is recommended to flush and remove foreign objects accumulated in the pump at appropriate intervals.

The internal condition of the pump can be checked by opening the inspection hole cover on the pump cover.

Note: Disassembly and assembly work should be performed by technicians with experience in equipment repair.

When disassembling the pump for inspection or cleaning, pay attention to the disassembly steps to avoid damaging the pump parts.

Before disassembly, mark the assembly position of the parts to reduce the possibility of incorrect assembly and shorten the running - in time.

Do not use brute force or heavy hammers to strike. The disassembled parts must not be damaged or lost.

Assembly Steps

Note: Before assembly, apply clean vacuum pump oil to the surfaces of each friction pair, and embed the O - ring into the groove.

1. Install the high - grade vane into the high - grade rotor groove, install the high - grade rotor component into the stator, and install the high - grade end cover. It is recommended to assemble the pump vertically with the pump body end face as the reference.

2. Install the low - grade vane into the low - grade rotor groove, install the low - grade rotor component into the stator, and install the low - grade end cover.

Note: Before installing into the stator, push the vane by hand to ensure that the vane slides smoothly without jamming in the rotor groove.

3. Install the coupling and rotate it by hand; there should be no jamming or obvious uneven weight.
4. Install the exhaust valve, oil baffle, and other components.
5. Insert the air inlet nozzle and gas ballast valve, and fasten them with screws.

VI. Causes of Faults and Troubleshooting Methods

Fault	Reason	Method of exclusion
Insufficient Pumping Speed	1. Insufficient pipeline conductance capacity	1. Increase the pipeline diameter
Failure to Reach the Technical Requirement of Ultimate Vacuum	1. Leakage in the pipeline and system 2. Pump leakage 3. Worn oil seal 4. Contaminated or mismatched vacuum pump oil 5. Clogged air inlet filter screen 6. Pipeline oil leakage 7. Vane stuck or damaged 8. Aging O - ring rubber 9. Clogged oil hole	1. Inspect the system and eliminate leaks; clean the pipeline and pipeline valves 2. Leak test the pump 3. Replace the oil seal 4. Replace or filter the vacuum pump oil; turn on the gas ballast for purification 5. Clean the air inlet filter screen 6. Replace the oil pipe or reassemble the oil pipe 7. Replace the vane 8. Replace the O - ring 9. Loosen the oil nozzle pressure plate, pull out the oil inlet nozzle, and unclog the oil hole
Motor Overload	High inlet pressure Single - side contact between the rotor end face and the pump chamber end face	Adjust and control the inlet pressure Adjust the rotor end face clearance
Overheating of the Pump Outer Wall	High inlet pressure Poor cooling Insufficient pump oil Contact between the rotor and the pump chamber end face	1. Adjust and control the inlet pressure 2. Unblock or increase the cooling water flow 3. Adjust the oil level, generally

Fault	Reason	Method of exclusion
	Poor lubrication of bearings and oil seals Deteriorated pump oil	near the center line of the oil window; add pump oil to near the center line of the oil window 4. Disassemble, inspect, and repair 5. Adjust the oil volume 6. Change the oil
Abnormal Sound and High Noise	Improper assembly High inlet pressure Worn vanes	Disassemble and reassemble Adjust and control the inlet pressure Replace the vanes
Loud Exhaust Noise	1. Too low oil level to seal the exhaust valve 2. Leakage in the external pipeline, container, test instrument pipeline, and joints of the pump port; gas discharge from the exhaust port	1. Add oil 2. Find the leak point and eliminate it
Severe Early Wear of Bearings and Gears	Contaminated lubricating oil Insufficient lubricating oil	Replace the lubricating oil Add lubricating oil
Pump Failure to Start	Insufficient voltage Pump or motor stuck Too low ambient temperature, resulting in high viscosity of vacuum pump oil	Measure the voltage Separate the pump from the motor and perform a manual rotation test 3. Heat the pump oil
Pump Stuck	No lubricating oil in the pump Broken vane Long - time reverse rotation of the motor Long - time lack of lubricating oil for bearings	Add lubricating oil Replace the vane Inspect and correct the motor rotation direction Inspect and replace the bearings and add oil

VII. List of Wearing Parts

Model	Oil Seal	O-ring Seal	Other
2XZ-2	16×30×7	8×1.9/30×3.1;45×37×4	2XZ4-46A Transmission Rubber Ring
2XZ-2D			
2XZ-4			
2XZ-4D			
2XZ-2B	30×20×10	10×1.9/18×2.4/8×1.9;25×2.4/37×3.1/7×1.9 52×1.9/38×1.9/5×1.9;30×3.1/75×3.1/45×4	2XZ4-46 Transmission Rubber Ring
2XZ-2BD			
2XZ-4B			
2XZ-4BD			
2XZ-8	PD25×40×10 PD18×30×10	18×30×10/54×3.5;10×1.9/8×1.9/50×3.5 18×2.4/25×2.4.	2XZ8-46 Transmission Rubber Ring
2XZ-8B	25×40×10	8×1.9/10×1.9/18×2.4;25×2.4/45×3.1/72×1.9 50×3.5/54×3.5/57×1.9;60×2.65/120×1.9.	2XZ15-46 Transmission Rubber Ring
2XZ-15B			

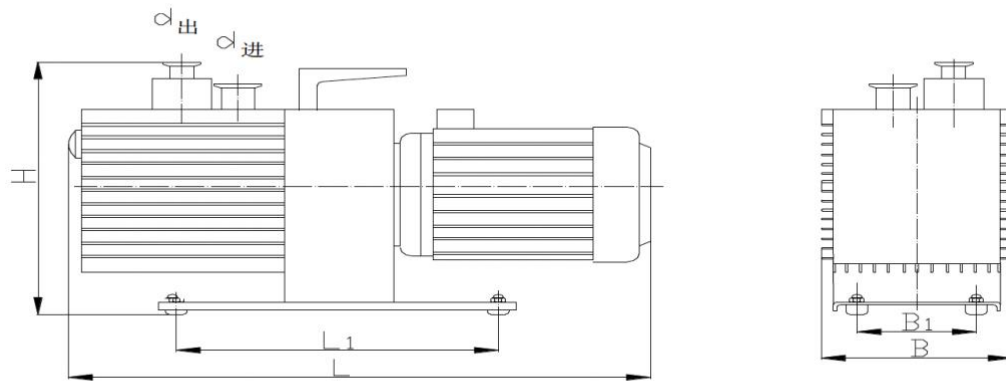
Note: The content of this list of wear parts is not equivalent to the necessary accessories included in the random packing.

VIII. Appearance and Installation Location and Dimensions

Unit: mm

Model	Overall Length (L)	Overall Width (B)	Overall Height (H)	Pump Foot Hole				Pump Installation Hole with Base				Inlet Port (d_in)	Outlet Port (d_out)				
				Hole Distance L1	Hole Distance B1	Hole Diameter d1	#of Holes n1	Hole Distance L2	Hole Distance B2	Hole Diameter d2	#of Holes n2						
2XZ Series Two - stage Direct - Coupled Rotary Vane Vacuum Pump																	
2XZ-2	448	150	280	270	100	6	4	/	/	/	/	KF25	KF16				
2XZ-2D								/	/	/	/						
2XZ-2B	546	160	304					/	/	/	/						
2XZ-2BD								/	/	/	/						
2XZ-4	528	150	280					/	/	/	/						
2XZ-4D								/	/	/	/						
2XZ-4B	546	160	304					/	/	/	/						
2XZ-4BD								/	/	/	/						
2XZ-8	600	240	450	350	150	12		/	/	/	/	KF40	35				
2XZ-8B	650							/	/	/	/	45	40				
2XZ-15B	780							/	/	/	/	55	50				

2XZ Series Vacuum Pump Outline Diagram (Outline for Reference Only)



2XZ 系列直联旋片真空泵

VIII. Packing List

Model	Vacuum Pump (Motor Included)	Manual	Oil Seal /Quantity	Vacuum Pump Oil (No.100#) /Quantity	Other /Quantity
2XZ-2	1 (1)	1	16×30×7/1	0. 7L/1	Exhaust Valve Plate 14×14/1
2XZ-4	1 (1)	1		0. 8L/1	2XZ4-46A Transmission Rubber Ring/2 Vane Spring 3×0.4×30/5
2XZ-2B	1 (1)	1	30×20×10	1. 4L/1	Check Valve Head /1
2XZ-4B	1 (1)	1			2XZ4-46 Transmission Rubber Ring /2
2XZ-8	1 (1)	1	PD25×40×10/2 PD18×30×10/1	1. 8L/1	Exhaust Valve Plate 22×22/2 2XZ8-46 Transmission Rubber Ring /2
2XZ-8B	1 (1)	1	25×40×10/3	2. 1L/1	Exhaust Valve Spring /1
2XZ-15B	1 (1)	1			2XZ15-46 Transmission Rubber Ring /2 Vane Spring 3×0.4×50/6 (2XZ-8B) Vane Spring 3×0.4×50/9 (2XZ-15B)



Product Quality and Warranty

Dear Respected User:

Hello!

In order to safeguard your legitimate rights and interests, repay your concern and love for the "Shangzhen" brand, and to better provide you with after-sales service, our company will comply with the relevant provisions of the "Product Quality Law" of the People's Republic of China. With this warranty and valid invoices, we will provide you with high-quality after-sales service. Our company promises the following:

The warranty period for the whole machine is one year, including three months for the rubber parts. The warranty period is calculated from the date of issuance of the invoice. During the warranty period, repairs are mainly performed.

After our company receives your repair information, we will arrive within 24 hours in cities located in Zhejiang Province and within 72 hours in other provinces and cities, except for special reasons such as weather and natural disasters. For users outside China, our arrival time will be discussed accordingly.

One of the following scenarios does not fall within the scope of our warranty, but the company can provide paid services:

- 1、 The product does not meet the factory technical specifications due to your use;
- 2、 Due to your production process, corrosive gases such as dust, ammonia, acid, etc. enter the pump chamber;
- 3、 Without the consent of the company, you disassemble it yourself, resulting in the product not meeting the factory technical specifications;
- 4、 No sales or valid invoice;
- 5、 The product model and machine number filled in the three-guarantee warranty are inconsistent with the product sent for repair;
- 6、 Exceeding the warranty period.

SHANGHAI VACUUM PUMP WORKS CO., LTD

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Warranty

Product Name		Product Number		Quantity	
Product Number		Invoice Date		Date of Manufacture	

Purchase Unit Name		Certificate Number		Invoice Number	
Quality Issues					
Your Usage Conditions					

Unit (signature):_____Unit address:_____

Postal code:_____Telephone:_____

Contact person:_____Contact mobile phone:_____

To facilitate our door-to-door service for you, please fill in the walking route in detail:

Repair date:_____Year_____Month_____Day

Information Feedback Form



Dear Respected User:

Hello!

Thank you for using our company's products. In order to provide you with after-sales service in a more timely and effective manner, please fill out the "Information Feedback Form" after receiving the goods and mail, fax or email it to our company. Appreciate!

Company Name					Postal Code	
Company Address					Contact Person	
E-mail		Telephone		Fax		
Product Model	Product Number	Certificate Number	Purchase Date	Quantity	Supplier Name	
Remark						

SHANGHAI VACUUM PUMP WORKS CO., LTD

Address: NO.3516, Waiqingsong Road, Qingpu District, Shanghai, China

Postal Code: 201709

Tel: 021-59745974-8108

Fax: 4006251818-9978

Complaints hotline: 021-59745974-8123

Email: shzkbc@shzkbc.com