

## 1. Matters needing attention

### 1.1 Output steering (with photos)



1.2 The correct use of the motor will directly affect the working life. Therefore, the following basic requirements must be met.

### 1.2.1 System requirements

The system should be equipped with a corresponding oil filter to ensure the cleanliness of the system oil.  
The hydraulic circuit must be equipped with a cooling system to prevent excessive oil temperature.  
Pressure gauges and thermometers must be installed in the oil inlet lines.  
A pressure gauge should be installed in the hydraulic circuit of the hydraulic pump.

### 1.2.2 System hydraulic oil requirements

According to the different ambient temperature and usage, the oil used should have good viscosity-temperature performance, good defoaming properties, anti-oxidation, anti-rust, high flash point, etc. During the operation of the motor, its viscosity is between  $(25-70) \times 10^{-6} \text{m}^2/\text{s}$ , and the water, alkali and mechanical impurities in the oil must not exceed the allowable value.

It is recommended to use YB-N46, YB-N68 anti-wear hydraulic oil.

The filtration accuracy of the system is better than  $20\mu\text{m}$ .

Normal working oil temperature is  $25-55^\circ\text{C}$ , short-term working oil temperature is not higher than  $65^\circ\text{C}$ .

## 2. Motor installation

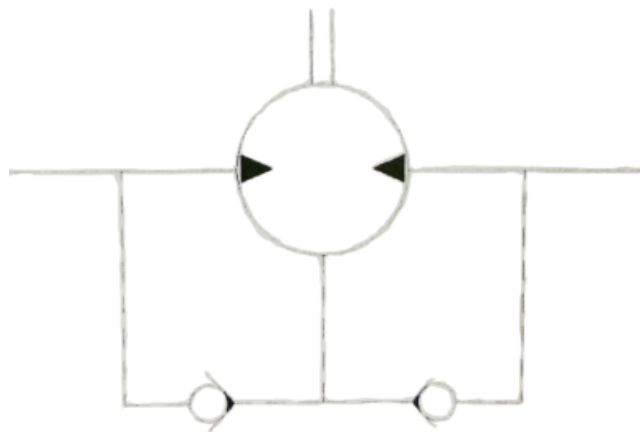
Before installation, check whether the motor is damaged. The motor oil stored for a long time needs to be drained and rinsed to prevent the internal moving parts from sticking.

The motor mounting bracket must have sufficient rigidity to prevent shock and vibration during rotation.

The mounting bolts must be tightened evenly.

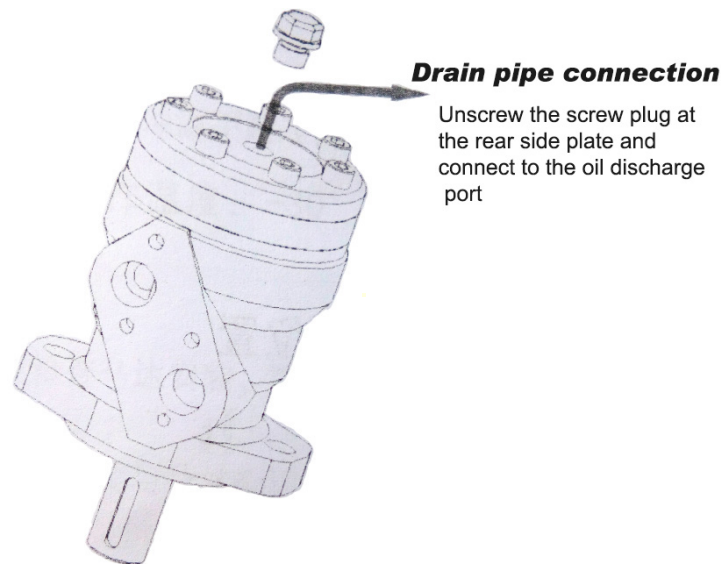
Connection method of drain pipe:

The BMR motor has two built-in check valves, and the leaked oil can return to the oil return pipe through the check valve, (with photos)



A) When the oil return pressure is  $\leq 1\text{Mpa}$ , there is no need to connect the drain pipe;

B) When the oil return pressure is greater than  $1\text{Mpa}$ , the drain pipe must be connected. (Drain pipe location diagram)



The motor is unstable when running at low speed, and can be eliminated by applying back pressure, the back pressure value is not less than 0.2Mpa.

This type of motor can not be operated under the pump working conditions, nor can it be used as a pump.

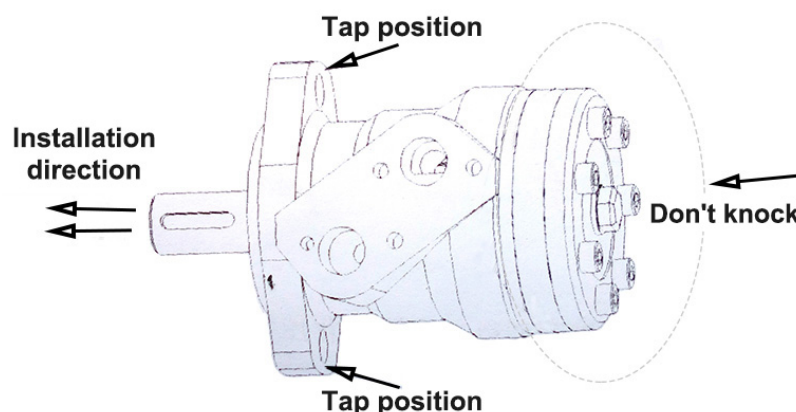
The installation surface should be flat.

The installation should determine the connection flange, the stop, and the output connection shaft size is accurate.

Ensure that the output shaft and the device connected to the transmission have good concentricity. When the output shaft is installed, it is necessary to prevent the axial thrust of the output shaft and the interlocking device. (The cycloidal motor BMR bears a small radial force.)

During the installation process, the smoothness and parallelism of the connecting plate part of the oil inlet and outlet are protected to prevent the oil sealing effect caused by the bumps from being bad, resulting in oil leakage.

**WARNING** The screws and the rear cover of the rear of the motor must not be hit during installation. If you want to tap, please tap the mounting flange (with photos)



The motor cannot be installed forcefully or twisted.

Do not remove the plastic plugs above the pipelines and oil pipes before they are installed.

When the system is connected, the relationship between the installation position of the motor inlet and outlet on the installation drawing and the rotation of the motor should be recognized. During the installation, it was found that the oil inlet and outlet are not suitable for the corresponding positive and negative rotation directions of the output shaft. Replacing the installation of the oil inlet and outlet pipes for the A and B chambers can achieve the opposite effect to the original working rotation direction.

### 3. Use of the motor

#### 3.1 Use of motor

The pressure, flow, and output power of the motor must not exceed the specified values. When running for a long time, the oil temperature does not exceed 65 °C.

Motor limit working temperature: -30 °C -70 °C

#### 3.2 Commissioning

Before starting, check the motor installation, whether the connection is correct and firm, and the system is correct.

Check whether the oil inlet and outlet directions and motor rotation direction meet the requirements of working conditions.

The pressure of the relief valve of the oil supply line is adjusted to the lowest value, and gradually adjusted to the required pressure after operation. Tighten the inlet and outlet pipes and the drain pipe.

After running the motor under no load for at least 10 minutes, gradually increase the pressure to the working pressure, and observe whether the motor is running normally at any time during the operation.

During operation, the working conditions of the motor and system should be checked frequently. If abnormal temperature rise, leakage, vibration and noise or abnormal pulsation of pressure are found, the machine should be stopped immediately to find out the cause.



During use, when the temperature of the oil inlet is  $\geq 65$  °C, please check whether the cooler works normally. To ensure the normal working temperature of the motor surface.

Motor transportation should be equipped with appropriate wooden boxes and cardboard boxes according to the size of the motor, and plastic paper packaging on the surface of the motor to prevent the moisture and moisture from invading the motor and causing the motor to rust and cause motor failure.



Avoid placing the motor directly on the ground. No need to apply anti-rust oil for a long time.

Motor storage environment: 10-9%RH, -20-65S C.

During transportation and storage, the motor should avoid moisture, moisture and any.

What corrosive gas.

## 4. Motor troubleshooting

The motor is a precision component, which needs to be installed, commissioned and repaired by professionals. Without our company's consent, it is not allowed to dismantle and repair it by yourself. If the user unit has the conditions for dismantling and inspection with the permission of our company, after reading the instructions carefully, you can dismantle and inspect it yourself, but you must pay attention to the following three points:

When disassembling, be careful not to knock the parts and scratch the hair, especially to protect the moving surface and sealing surface of the parts. The disassembled parts are placed in a clean container to avoid collision with each other. It is forbidden to strike with a hammer during disassembly and assembly.

The removed parts should be carefully inspected, and the worn parts are basically replaced without repairing by themselves. In principle, all seals are replaced.

Before assembling, all parts should be cleaned and dried. Do not use cotton yarn or rags to wipe the parts. The assembly place and the tools used should be clean, and the output shaft should be rotated after assembly. It should be flexible and free of jams.

### Troubleshooting

Serial number	Fault phenomenon	The Reason	Exclude
1.	The motor does not rotate	Hydraulic pump does not start	Turn on the hydraulic pump
		Insufficient oil in the tank	oil
		Directional valve in neutral	Open the directional valve
		System overflow valve fully open	The system pressure is adjusted to the specified value
		Motor torque is not enough	Replace the motor
2.	There is abnormal noise when the motor is running	There is air in the hydraulic system	Find out the reason for the intake air and discharge the air in the oil
		Vacuum	Increase fuel supply
		Motor failure	Replace the motor
		Support bearing is broken	Replace bearing
3.	Motor leakage	Damaged seal	Replace the seal
		Parts have pores, trachoma, cracks, etc.	Replacement parts
4.	Motor heat	Hydraulic oil temperature is too high	Increase cooling capacity
		Low motor efficiency	Replace wearing parts
		Abnormal wear	Replace the motor
5.	Increased oil leakage at the outer drain hole	Abnormal wear at the distribution shaft	Replacement parts
		Wear of the needle column group of the cycloid wheel stator body	

#### 5. Motor maintenance and post-processing

Regularly check the accessories in the hydraulic system, the accuracy of pressure gauges, thermometers, etc.

Check hydraulic oil regularly:

It is not allowed to use mixed oils of different types of hydraulic oils, and the period of renewal of new oils varies according to different industries and mines.

Under normal circumstances: the hydraulic oil is changed every six months.

Disposal of waste oil after motor use:

Should be sent to a special waste oil treatment unit for centralized treatment of waste oil.

If the motor is not used for a long time:

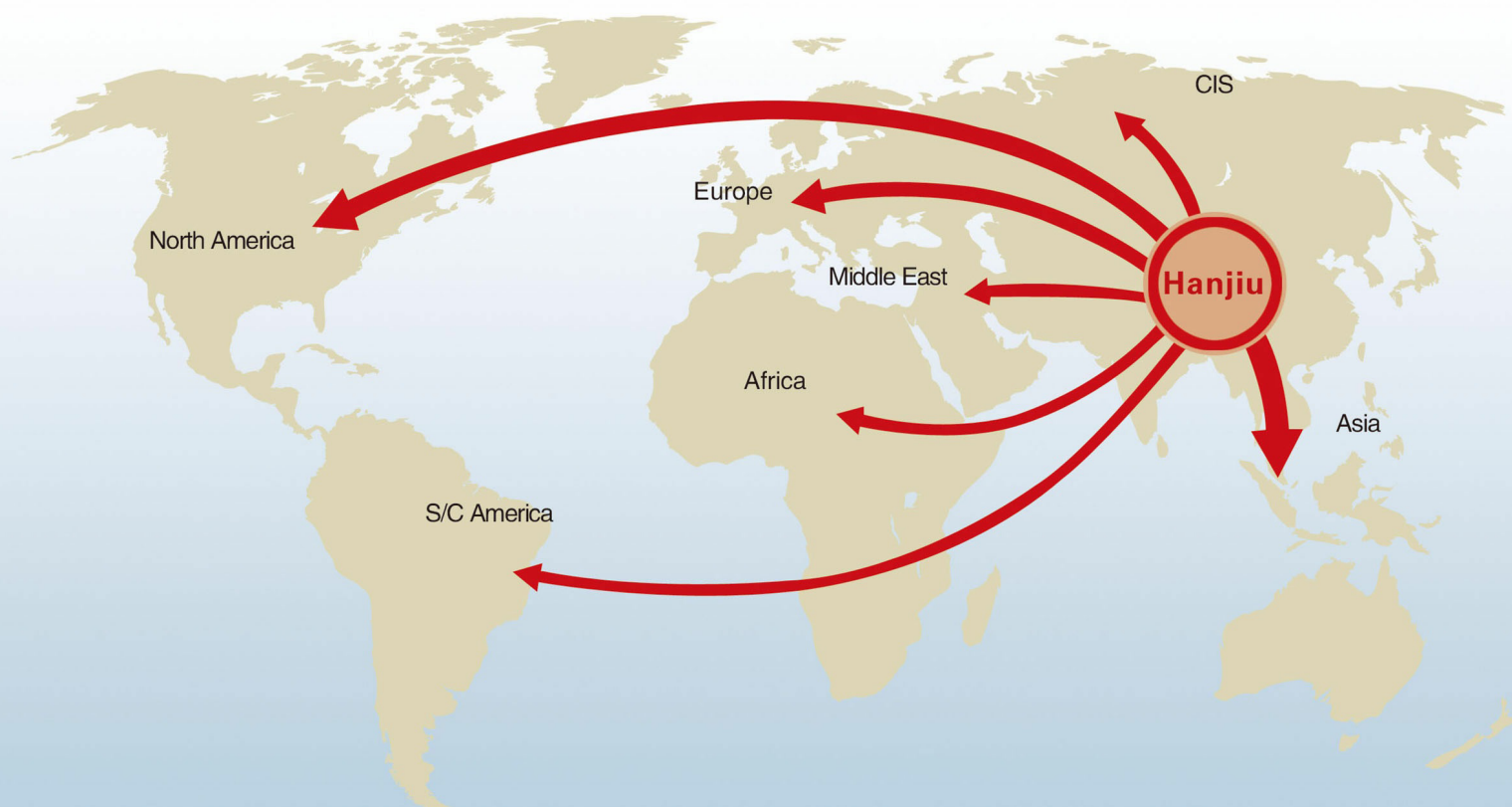
The cavity should be filled with oil, and the oil ports should be sealed. Grease on the surface of the output shaft should be wrapped with a cloth or sleeve.

## **Admonish**

The manufacturer is not responsible for the consequences caused by the user not following the above recommendations or using the motor incorrectly.

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## 石家庄寒九科技有限公司

地址：中国河北石家庄友谊北大街398号

电话：+86 ( 311 ) 68123061

传真：+86 ( 10 ) - 80115555-568844

邮编：050000

网址：www.hjhydraulic.com

邮箱：manager@sjzhjism.com

## SHIJIAZHUANG HANJIU TECHNOLOGY CO.,LTD.

Add: No. 398 Youyi Street, Shijiazhuang, Hebei, China

Tel: +86 (311) 68123061

Fax: +86 (10) - 80115555-568844

Post code: 050000

Web: www.hjhydraulic.com

Email: manager@sjzhjism.com