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# Hydraulic Earth Drill Operation Manual

## 1. SAFETY REGULATIONS

1. Read this manual carefully before using the hydraulic earth drill and strictly abide by this manual.
2. We will not undertake the warranty responsibility for any damages and caused by using non-original accessories.
3. Please don't make any repair work when the hydraulic earth drill is working.
4. Must check and adjust when the machine is working and at least need two men to attend. One must in the console and keep close watch over the whole check and adjustment process.
  5. In order to prevent the damage in maintenance, all possible move and drop parts must have a reliable support.
6. When lifting parts, be sure to use safe and reliable enough diameter size rigging.
7. When checking and repairing the hydraulic system, please ensure that these systems have been pressure relief.
8. Always check if the hose and pipe connectors are in good condition and if the pipe joints are tight.



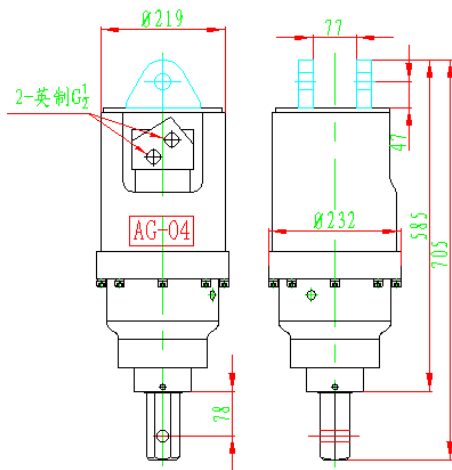
**(DANGER!)**

Nonstandard use can cause serious damage! To operate, maintain, or ship if not in accordance with the safety rules, can cause serious damage, or serious damage to the gear box and all around

## 2. Hydraulic Earth Drill Parameters

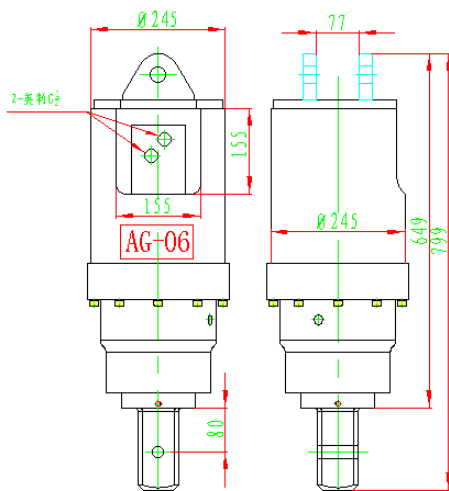
### Model Specifications:

#### AG-04series



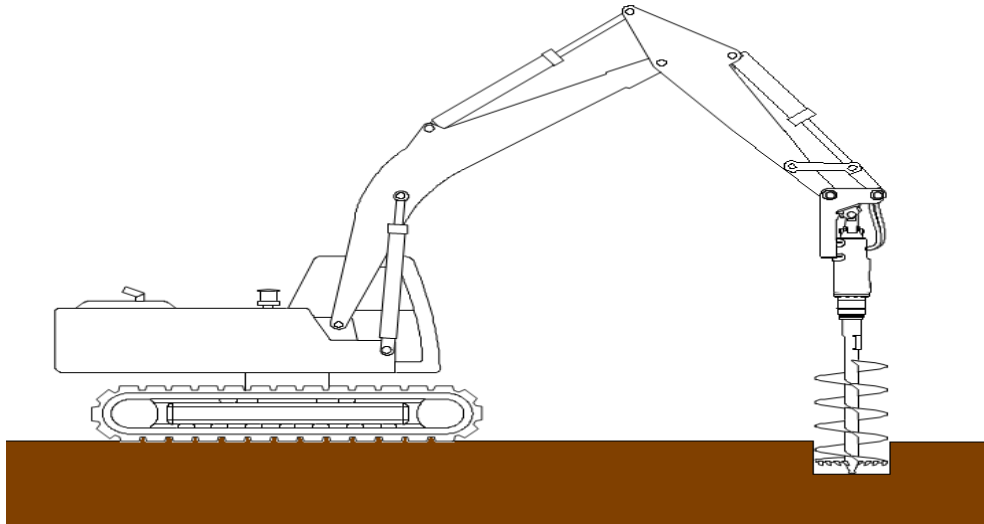
spec	3000Nm	4500Nm
excavator	2T-4T	4T-6T
max rotate speed	62r/min	56r/min
max torque	3000Nm	4000Nm
flow	30-75L/min	45-95L/min
Instantaneous pressure	210bar	210bar
output shaft(mm)	Hex=41 Hex=51 OD=65	
fitment auger size	φ 75- φ 500	

#### AG-06series



spec	6000Nm
excavator	4.5T-6T
max rotate speed	52r/min
max torque	6000Nm
flow	240bar
output shaft(mm)	OD=65 Hex=51 SQ=75
fitment auger size	φ 200- φ 600

## 2. Working Sketch



### AUGERS

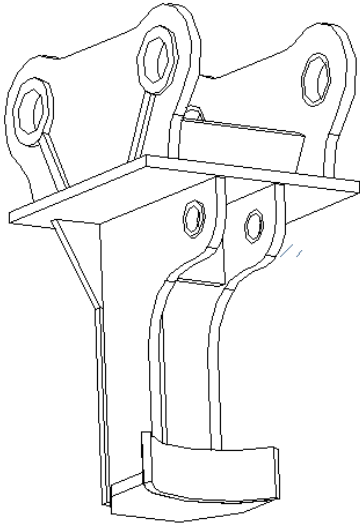
- Earth and Clay Drill(Including drill and drill bit)
- Abrasive Drilling(including carbide teeth and carbide drill)
- Hard/Abrasive Drill(including rock teeth and rock drill)
- Customize the drill pipe(enhanced)

## 3. Model Selection Guideline

To make sure the following conditions before selection.

- a. (The brand, model of your machine tools )
- b. (The hole diameter to drill)
- c. (The hole depth to drill)
- d. (The type of geological to drill )

### 3. Installation



(4、 6、 10、 20、 30Ton Such specifications)

1. Bracket: hydraulic earth drill is connected with excavator or loader through such bracket, as following shown. Normally, we have several sizes of brackets as below, if you need different size, please feel free to contact us.
  2. Output shaft: the output shaft of hydraulic earth drill have 65 round, 75 square 110 square, 125 hexagonal four specifications.
  3. Hydraulic pipeline: as our hydraulic earth drill can left-right rotating, so we need two ways to oil pipeline. Some machine just have one way oil pipeline, like excavator hydraulic breaker pipeline, then we need to refit it. Refit steps:
    - a. Change the hydraulic breaker pipeline into two ways (4 oil ports) and connect A, B port onto the multi-way valve.
    - b. Take off the hydraulic breaker return oil pipe from the fuel tank and install onto the multi-way valve.
    - c. Install the overflow valve onto the hydraulic breaker inlet pipe and return pipe, then adjust the overflow valve before connect the hydraulic earth drill to make the oil pressure of the inlet and the return pipe meet the hydraulic earth drill parameter requirements.
- Other machines can refer to the above method when modified as its principle is the same, if you have any questions, please feel free to contact us.

## **4. Repair And Maintain Notes**

1. Maintain a high level of cleanliness when disintegration and maintenance.

2. Lifting device and the cable must be able to take the weight of 1000kg.

3. Ensure the hydraulic rotary power head is fixed in a reliable way in the process of transportation.

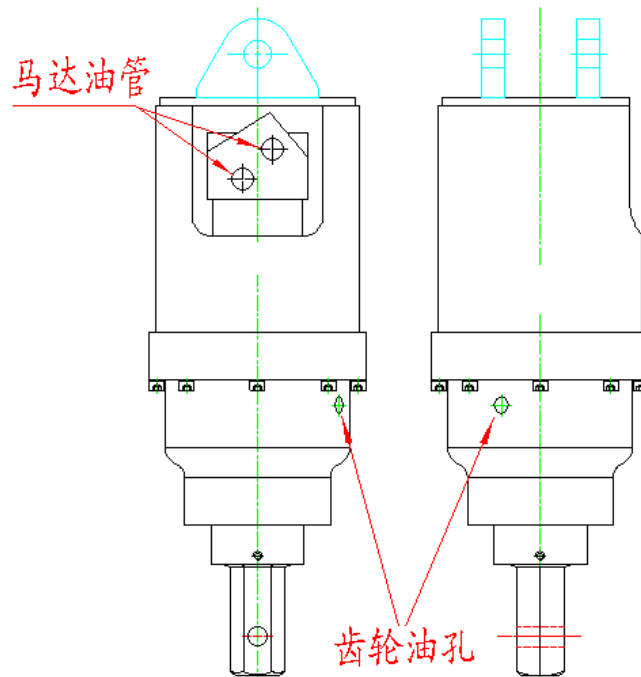
4. Check if there is oil leak, if you find oil leak, please change the oil seal and “O” ring. Gear box is lack of oil, lack of oil to be timely filling gear oil.

5. Add bracket grease every week and tighten all the screws.

## 5.The Motor Using Notes

1. We don't suggest bear the max torque at the highest speed.
2. Continuous operation- The motor can continuous operate under this condition.
3. Discontinuous running- in this condition, the motor running time should not exceed 10%per minute.
4. Recommended hydraulic oil- high quality, anti-wear hydraulic oil. Minimum viscosity under the working temperature is not lower than 70 SUS.
5. The recommend highest temperature 82° C.
6. Recommended filter fitness -18/13 according ISO cleanliness.
7. In order to maximize the life of equipment, we must run in for a period of time. In the implementation of running in procedures, should be hung in the vertical position of the spiral drill, running during the work area to ensure that the work area 6M No loiterers. Before the full rated load operation, should operate at 20 of the rated pressure for 30% minutes.

## 6. Lubrication Chart



Manufacturer pre installed 150 gear oil, according to the user can use the ambient temperature in the summer recommended 320, recommended 100 for low temperature environment in winter.



## 7.Common Fault And Eliminating Methods

Fault phenomenon	Fault diagnosis	Eliminating methods
The output shaft can't rotate	Hydraulic line connection error	Correctly connect the hydraulic line
	Hydraulic motor damage	Repair or replace the motor
	Drive gear, spline damage	Replace the new transmission parts
Slight load can't turn	The overflow valve damage	Replace the overflow valve
	Hydraulic motor inner oil leak	Repair or replace the hydraulic motor
Oil output shaft	Oil seal damage	Replace the oil seal
Chamber has a sound	Damage of bearings, gears or other components	Repair or replace damaged parts, maintenance on a regular basis