

Mud Agitator



The mud agitator is used to suspend the solids and maintain the homogeneous mixture. It is part of the solid control system. This impeller-type mixer is mainly applied to mix the drilling fluids, so that to avoid the solids deposit on the bottom of the mud tank and enhance the performance of the drilling fluids.

The mud agitator, whose power is under 5.5kW, normally adopts cycloidal speed reducer. So the compacted structure brings smaller size. Meanwhile, the driller mixer with over 7.5kW power is fitted with the turbine worm gear reducer, which delivers large torque, stable performance and high reliability.

The commonly used mud agitator model includes JB-5.5, JB-7.5, JB-11 and JB-15. The choice is based on the size of the mud tank. In addition, we can tailor the length of the agitation shaft in accordance with the size of your mud tank.

CHENGDU COBRA TRADING CO.,LTD

Specification

Denomination	Power (kW)	Diameter of impeller (mm)	Impeller speed (rpm)	Agitation shaft length (mm)	Mixing volume (m ³)	Weight (kg)
5.5kW Agitator	5.5	72	56.5	The length depends on the depth of the mud tank. Normal length is 2150mm.	20	390
7.5kW Agitator	7.5	83	57.7		25	570
11kW Agitator	11	92	57.3		35	733
15kW Agitator	15	100	57.3		45	1128

Feature

1. Circular cylinder worm reducer. The cylinder worm has the circular-arc shaped section. The tooth of the worm wheel is shaped as the conjugate circle with the worm shaft. So the gear meshing is reliable which delivers high efficiency and compacted structure.
2. Easy to use. The speed reducer works with the explosion-proof electric motor, which is ideal for application in poor field environment. Besides, the electric motor is placed horizontally, which is easy for installation, adjustment, exchange and maintenance.
3. Large capacity. This mud agitator has large mixing force with fairly wide mixing area. The starting resistance is reduced at the same time.
4. Better connection. The flange is firmly mounted with the agitation shaft, which is the ideal solution to the breakage between the flange and the agitation shaft.
5. No leakage. The worm shaft, worm wheel and input shaft are lubricated by the spray from oil tank. The bearings on the end of the output shaft are lubricated by grease. The lubricating oil tank for worm shaft, worm wheel and input shaft is separated from the lubricating oil for the bearings. This avoids the leakage caused by the sealing problem of output shaft.

Structure and working principle

1. Structure

This mud agitator mainly includes explosion-proof electric motor, speed reducer, foundation support and impeller component. The electric motor and speed reducer, as well as the speed reducer and impeller shaft are all connected by the rigid coupling device. Besides, the impeller is welded on the basis of four vanes.

2. Working principle

The impeller agitates the drilling fluids into vortex motion, which offers better mixing effect. The trays are placed among the vanes, which are used to prevent the solids deposit around the vanes when the agitation is stopped. As a result, this reduces the starting resistance that solids bring to vanes, whereby the electric motor is protected against the overloading damage.

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Installation and maintenance

1. During the installation, the mud agitator should be horizontally moved and steadily placed the target place. The concentricity should be controlled to be less than 0.39mm. Then the four M16 seats are welded on the mud tank and the foundation bolts are tightened.
2. The rigid coupling of the mixer must be firmly assembled with the spring pad. Otherwise, the impeller shaft would have deflection which quickens the abrasion of speed reducer.
3. During running, if there are unusual conditions such as abnormal noise, jammed and extreme temperature, the mud agitator should be stopped and powered off immediately for troubleshooting.
4. The oil height in the speed reducer should be controlled at the middle part of the window. Therefore, the oil supply should be constantly conducted during operation. The No. 120 industrial gear oil is recommended. If not available, other lubricating oil with proper fineness is also acceptable.