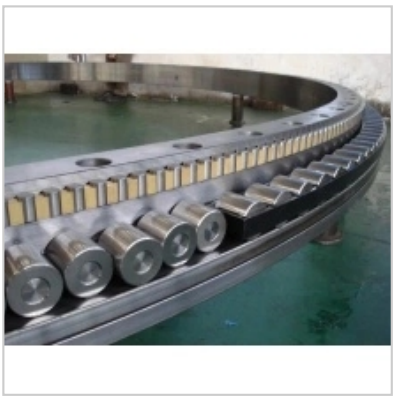
Yrt Bearing

Cross Roller Bearing YRT395-YRT100



| bearing type | YRT100 |
|---|---|
| boundary dimensions | |
| d | 100 |
| D | 185 |
| H | 38 |
| H1 | 25 |
| C | 12 |
| D1 | 160 |
| J | 112 |
| J1 | 170 |
| inner ring | |
| d1 | 5.6 |
| d2 | 10 |
| a | 5.4 |
| quantity | 16 |
| outer ring | |
| d3 | 5.6 |
| quantity | 15 |

Design and analysis of rotor bearing for wind turbine

In the actual design process, the rotor bearing of wind turbine should be selected and analyzed first, and then implemented with the help of modern CAD technology.

(1) selection of rotor bearings for wind turbines

The rotary table bearing of wind turbine mainly has four point contact ball, three row roller and cross roller. The two-row four-point contact ball structure has relatively long service life, strong bearing capacity and small rotary resistance, but it has relatively large wear amount and low motion precision. The cross roller structure has relatively high precision and long life. The static bearing capacity of three-row roller structure is relatively high.

(2) calculation of the service life of the rotor bearing of wind turbines

The service life of the rotor bearing of wind turbine is calculated in practice due to its relatively large size and relatively low rotating speed. In the calculation of the life of the rotor bearing of wind turbines, the bearing capacity curve method and equivalent dynamic load method are mainly adopted. Carrying capacity curve method in the calculation of actual process, to ensure that the specifications of the wheel bearing transformation has a certain bearing capacity, the load and the ratio of the actual load to work out, and then obtain the basic life of wheel bearings, on the life of the wind turbine wheel bearing in the process of solving, is combined with the actual situation of working condition of a comprehensive analysis was carried out on the wheel bearing life. In the actual solving

process of equivalent dynamic load method, first of all, the rated dynamic load capacity should be solved, the adjustment coefficient of life and equivalent dynamic load should be determined, and finally, the life of rotary bearing should be calculated.

(iii) application of CAD technology in rotor bearing of wind turbines

Wind turbine wheel bearings in actual design process, combined with CAD technology, the wheel bearing CAD system is optimized, with the aid of FEN method to do a good job of handling wheel bearings, reducing light load area, and to ensure that has uniform distribution load, reliability and life of the wheel bearing comprehensive assessment, and the wheel hub and the stiffness of tower drum full consideration.

All in all, in the actual design process, the rotary bearing of wind turbine should be well designed, and its life should be calculated. At the same time, modern advanced science and technology should be applied to strengthen the scientific and technical nature of the rotary bearing system of wind turbine.

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