Passive yaw sliding bearing

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Admittedly, at first I didn't expect that this component would become the basis for an entire technological field. Now I understand what the developers at the time meant when they said 'This brake will move the market.'

Heike Salzer, Office Administration

JHS-PC-1x80

- Fully closed passive brake system
- Special epoxy resin pads
- Min. / Max. working temperature -40 / +70 °C

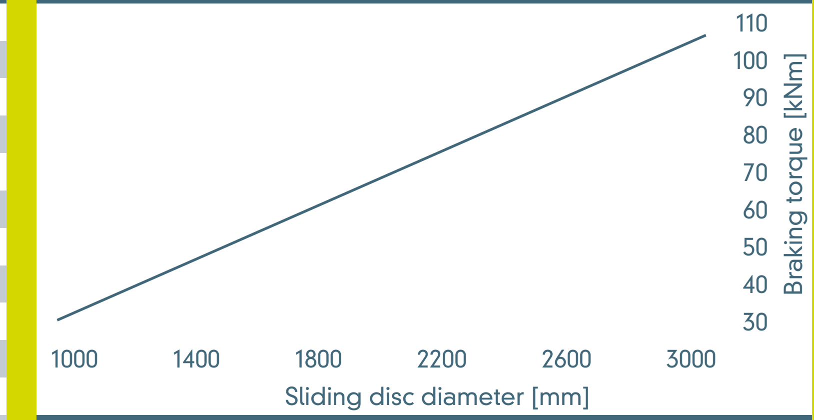
JHS-PC-1x80

The brake torque is applied continuously with passive yaw brakes. Based on robust and simple design, the system is inexpensive and almost maintenance free. Owing to the small number of components needed, the reliability is perfect and therefore, no outage of the wind turbine will occur.

The brake torque is mainly dependent on surface pressure and friction coefficient and allows different variations during design procedure. The system can slide on the yaw bearing and consequently, no extra brake disc is necessary.
The system has a high performance throughout the entire turbine life.

TYPE JHS-PC-1x80		
Contact force F_A	175	kN
Pad area	50,3	cm²
Theor. friction coefficient	0,4	μ
Temperature range	-40 / +70	°C
Weight	16	kg

BRAKING TORQUE



BRAKING TORQUE

Braking torque formula:

$$F_B = F_A \times \mu$$

$$M_B = a \times F_B \times D_B / 2$$

F_A = Contact force [kN]
F_B = Nominal braking force [kN]
M_B = Braking torque [kNm]
a = Number of passive yaw brakes acting on the disc
D_B = Sliding disc diameter [m]