

# PERMAGLIDE® plain bearings Gearbox rotor shaft in wind turbine systems

Sector: power engineering

## Product used

PERMAGLIDE® cylindrical plain bearing bush, design **PAP ... P10**

### Function

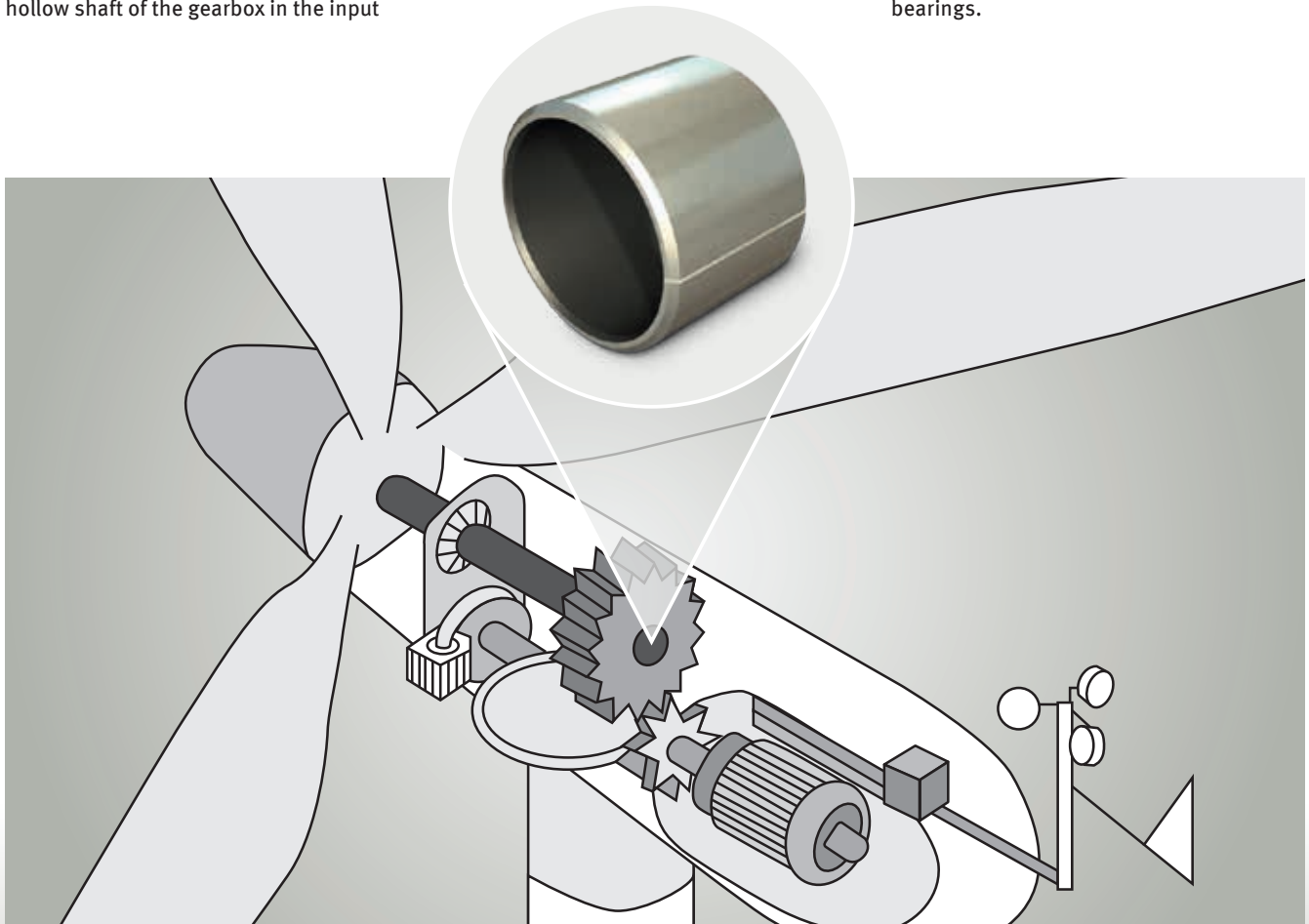
Most wind turbine systems have a horizontally-mounted 3-blade rotor. The wind causes the rotor blades to rotate. The mechanical rotary motion is transferred from the rotor hub to the rotor shaft. The low speeds of the rotor are converted at a ratio of 1:25 by a gearbox for generator operation. The rotor shaft is installed in the hollow shaft of the gearbox in the input

stage. The rotor shaft and hollow shaft are connected on one side and rotate synchronously. The rotor shaft twists as a result of the strong alternating stresses. This leads to micro-movements on the guide parts. Such strained contact points are usually subject to tribo-chemical corrosion.

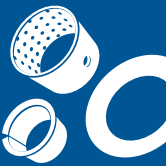
### Bearing with PERMAGLIDE® P10 plain bearing bushes

With a maintenance-free PERMAGLIDE P10 plain bearing, tribo-chemical corrosion is prevented and the guide quality of the bearing position is improved.

The negative impact from stick-slip is minimised thanks to the low friction coefficient of PERMAGLIDE P10 plain bearings.



PERMAGLIDE® P10 plain bearings are used as spigot bearings for the rotor shaft in the gearbox of wind turbine systems



**Advantage: reliable function of the bearing with PERMAGLIDE® P10 plain bearings**

- Maintenance-free
- Protected from tribo-chemical corrosion
- Low operating bearing clearance
- Low level of wear, even with alternating stresses
- Low friction coefficient

**Description of material**

PERMAGLIDE® P10 is a universal plain bearing material for both dry and lubricated applications.

The composite, multi-layered material excels thanks to its high rigidity, durability, high chemical resistance and good emergency running properties. These characteristics are achieved to a great extent through the use of lead bronze sintered onto a steel base, and friction-lowering additives of fluoropolymer PTFE and the metal lead.

**Alternative designations for wind turbine systems**

- Wind turbine
- Wind energy plant
- Wind energy converter
- Wind power station

**Further information about  
PERMAGLIDE® P10 plain bearing  
bushes**

**PERMAGLIDE® catalogue**, Item no.  
50003863-02

**PERMAGLIDE® online catalogue**  
[www.permaglidge.com/onlineshop](http://www.permaglidge.com/onlineshop)

