

1.3.2.2 The advantages of the OPEN WINDMILL KUKATE water pumps

Wind energy generators of the OPEN WINDMILL concept for power generation were built by craftsmen and students and then tested on the test field of the Senator für Arbeit in Bremen under the supervision of Prof. Dr. Cromes optimized. They have been successfully replicated many hundreds of times worldwide. The plant concept of the KUKATE34 incorporates the thirty years of experience and development work of the Wind Energy Working Group.

Facts that speak for the spread of the KUKATE concept:

- The mast height can be adapted to local conditions.
- The foundation can be built depending on the location. No concrete is required for the sleeper foundation.
- In low wind areas, the rotor diameter can be easily increased.
- No gears, belt or chain drives are required for the KUKATE water pumps. Only for the electric version of the KUKATE34E they are mostly useful for generator adjustment.
- The impeller has no electronic, electric, pneumatic or hydraulic components.
- The piston diameter can be adapted to well pipes on site at any time.
- The piston and valve seals are easy to make and replace by yourself.
- The KUKATE34M diaphragm pump does not require any piston seals.
- Depending on the pumping depth and the pumping requirements of the water, the adjustable crank swing stroke and an adapted choice of the piston diameter, a maximum water delivery adapted to the conditions can be installed.
- The guide bearings for the hardwood piston rod can be easily replaced at any time.
- The connecting rod bearings are simple pillow block bearings available on the market worldwide.
- The gondola bearings are manufactured in-house and can be replaced.
- The power/speed can be controlled via the variable control weight.
- The successful test run of the KUKATE34 over several years confirms all the requirements for a highly reliable water supply.
- The entire system can be manufactured, serviced and maintained with simple locksmith's tools and maintained.
- Three-quarters of the people involved in the successful construction of the wind pump prototype had no previous experience in metalworking.
- Simple skilled metal fabrication skills are sufficient for fabrication.
- All parts can be transported by humans.
- The system can be assembled lying down and then erected by people.
- All components are 100% recyclable and do not pollute the environment.

Education and training project

And last but not least: The KUKATE34 wind pump is an ideal useful training and further education project for the metalworking education all over the world.

Safety:

We have designed the KUKATE wind turbines to be self-safe. The rotor and the aggregates are protected by means of the control and side vane from being overloaded. Due to the vane control, wind itself turns the rotor out of the wind when the rated power is reached and, of course, in the event of a hurricane. Proven with hundreds of thousands wind pumps and wind generators for over one hundred and fifty years.