

WATER PUMPING USING VERTICAL AXIS WINDMILL SYSTEM

SYNOPSIS

- Vertical Axis Wind Turbine (VAWT), composed of a fixed stator and a moving rotor, enables it to be totally independent from the wind direction changes. Indeed, the fixed wings of the stator and the moving blades of the rotor are distributed in a symmetrical way around the vertical shaft of the machine, thus supporting no privileged operating direction. The result is an optimal working whatever the wind direction, which is particularly useful with sea shore winds, that are characterized by frequent direction changes.

In agricultural field, water pumping is a main event. The conventional pumps use electricity (or) diesel engine which may cost more in operations and maintenance and also face the unavailability of the fuel (or) electricity sometimes. The conventional energy source are depleting day by day. Moreover the pollution hazard arising out of fossil fuel burning has become quite significant in recent years. The depletion and demand makes the fuel cost even higher.

With the consideration of above problems, an attempt has been made to use wind energy as the source of power for running the pump unit. Here the A.C motor and diesel engine are replaced by the D.C motor to rotate the pump shaft. By this design the problem of atmospheric pollution is eliminated and even the noise arises out of running the diesel engine is considerably reduced. Moreover the system makes the user more comfortable and easy to use