# TOWER DESIGN
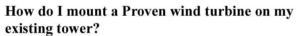## using proven turbines with your own towers

### Do I need to use a wind turbine tower?

Yes! Mounting a wind turbine on a telegraph pole (or other structure not originally designed for a wind turbine) is not something we would recommend. This is because the pole may not be strong enough either overall or at a specific point, or may not be able to withstand the resonance involved.

### Do I need to use a Proven tower?

Using a Proven tower is best as the towers have been specially designed for use with our wind turbines and have a proven track record of standing up to extreme conditions. Be aware that building your own tower is not as easy as you might think – we have a history of problems with towers that are not our own.

### How do I mount a Proven wind turbine on my existing tower?

If you do decide to build your own tower or recycle an existing one we can supply you with a tower mount for attachment to your tower. This can be welded or bolted via a flange onto a variety of different tower types. We can usually provide a modified tower mount with flange to suit – price on application. The tower mount is a perfect fit for slotting into the turbine head. Drawings available on request with tower mount details for each Proven wind turbine model in our range.

### Can you give me some advice on the kind of tower that would be suitable?

A suitable mast for our wind turbines should be designed to carry the turbine head top weight and withstand a maximum side force at the turbine head height. In addition, the tower should be designed to have minimal resonance within the operating frequency of the turbine. Proven towers have a very low natural frequency of oscillation (around 1Hz), so normal operation is well above this frequency and it's harmonics.
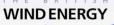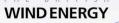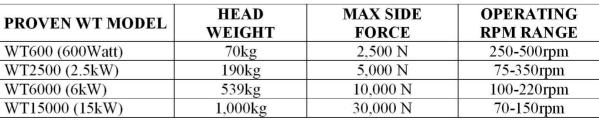
*See table below for spec on each model.*

| PROVEN WT MODEL | HEAD WEIGHT | MAX SIDE FORCE | OPERATING RPM RANGE |
|---|---|---|---|
| WT600 (600Watt) | 70kg | 2,500 N | 250-500rpm |
| WT2500 (2.5kW) | 190kg | 5,000 N | 75-350rpm |
| WT6000 (6kW) | 539kg | 10,000 N | 100-220rpm |
| WT15000 (15kW) | 1,000kg | 30,000 N | 70-150rpm |