

LOW-COST, ACCURATE CALIBRATION OF CUP AND PROPELLER ANEMOMETERS

Anemometer calibration data provide a framework to support monitoring data validity. This important function may be implemented in a number of phases of monitoring projects: Startup, Routine Maintenance and Decommissioning. Alternative anemometer calibration methods require a wind tunnel. This calibration method offers significant advantages in terms of lower cost, faster throughput and defensible test results.

The test for anemometer accuracy is the conversion of rate of rotation to electrical output signal in units of equivalent wind speed. This is accomplished by applying the anemometer manufacturer's transfer function which relates frequency (f) or revolutions per minute (rpm) to equivalent expected (true) wind speed in engineering units. The accuracy of the anemometer can be checked by turning the anemometer shaft at precisely known rates of rotation. The anemometer output signal is then statistically analyzed and compared to the predicted output and an assessment of agreement with respect to tolerance specification can then be made. Anemometers whose cups assembly cannot be readily removed are calibrated in a test chamber evacuated to 166 mb to eliminate drag effects produced by the cups assembly as it rotates during the tests. Click here for a listing of [anemometers we calibrate](http://www.enviroplan.com/windenergy.asp#Anemometers) (Link: <http://www.enviroplan.com/windenergy.asp#Anemometers>).



Calibration Test Apparatus for NRG #40 Anemometers

