

# APPLICATION SYSTEMS

Gawkar Industrial Estate, Panchpakhadi Service Road,  
Thane – 400 602. (Maharashtra) INDIA.  
Ph No: +91 22 32420541 / 25383001  
Email: [applicationsystems@gmail.com](mailto:applicationsystems@gmail.com),  
[applicationsystems@yahoo.co.in](mailto:applicationsystems@yahoo.co.in)  
Website: [www.applicationsystems.co.in](http://www.applicationsystems.co.in)



## POWDER DYNAMOMETERS

**Powder Dynamometers**, as their name suggests, contain Magnetic Powder in Dynamometer. The electrical current passing through the coil generates a magnetic field, which changes the property of the powder from free flowing condition at no excitation, to solid rock condition at full excitation. Thus producing a smooth braking torque through friction between rotor and stator – proportional to excitation.

The Powder Dynamometers produces their rated torque at Zero speed.

Powder Dynamometers are manufactured in wide rating range, from tiny 0.2 KgM (2 Nm) to Massive 200 KgM (2000 Nm).

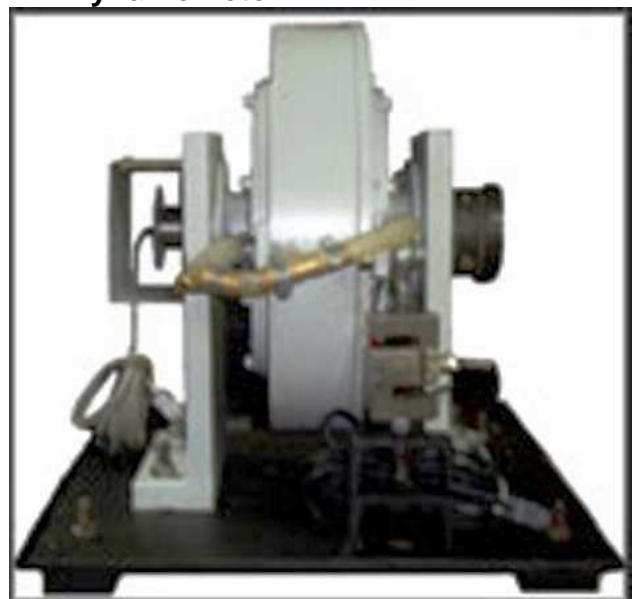
By changing the exciting power force, the Torque to be transmitted can be adjusted infinitely variable in the range 1:50. Powder dynamometers are typically limited to lower RPM due to heat dissipation issues.

Powder Dynamometers with Controls have system accuracy ratings of typically  $\pm 0.5\%$  full scale, depending on Dynamometer size and system configuration

The element to be tested can be loaded at standstill to determine the starting torque. Powder Dynamometer achieves at low control power, a high torque, being independent from the slip speed. It distinguishes itself by a simple construction, low weight and small required space. Powder Dynamometers are ideal for applications operating in the low to mid speed range and mid to high torque range. For higher heat dissipation Powder dynamometers are provided with water circulation system for cooling, which passes inside the stator to dissipate heat generated by the braking power with power ratings up to 60 kW. .



**150 Nm Water cooled Powder Dynamometer**



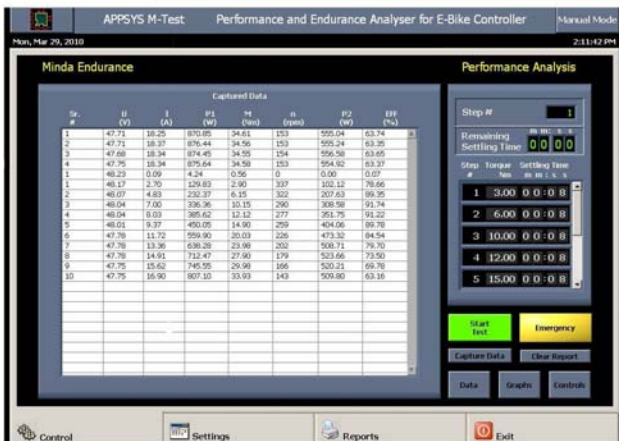
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Advantage of Powder Dynamometer is that it controls Torque right from Zero RPM. These are used to test Motors, BLDC Motors, Gears & Geared Motors, Low speed transmissions, Small Engines etc.



**E Bike-BLDC Motor Testing**



**POWDER DYNAMOMETER used for Motor & Wiper Motor Testing**