

APPLICATION SYSTEMS अनुप्रयोग प्रणाली

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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.

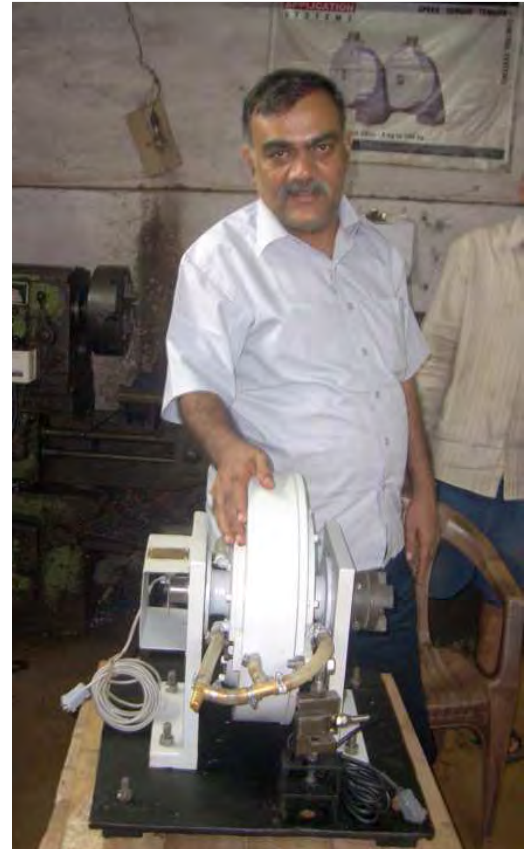
The Powder Dynamometers produces their rated torque at Zero speed.

Powder Dynamometers are manufactured in wide rating range, from tiny 0.2 KgM (2 Nm) to Massive 1000 KgM (10000 Nm).

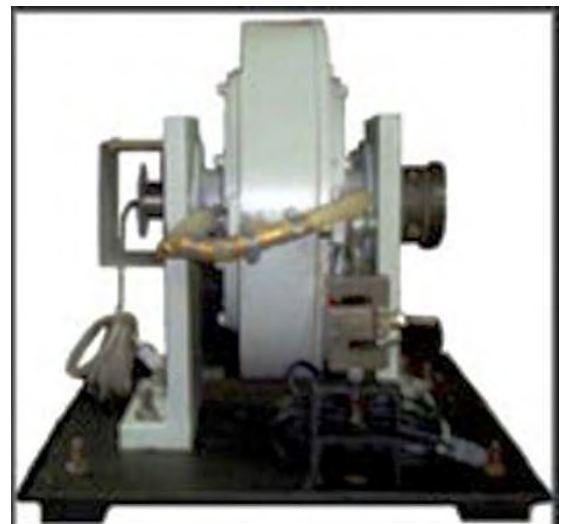
By changing the exciting power force, the Torque to be transmitted can be adjusted infinitely variable in the range 1:50. Powder dynamometers are typically limited to lower RPM due to heat dissipation issues.

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, Wiper Motors, Turbines, Gearboxes & Geared Motors, Low speed transmissions, Small Engines etc.



10000 Nm Powder Dynamometer for Gear Box Test .

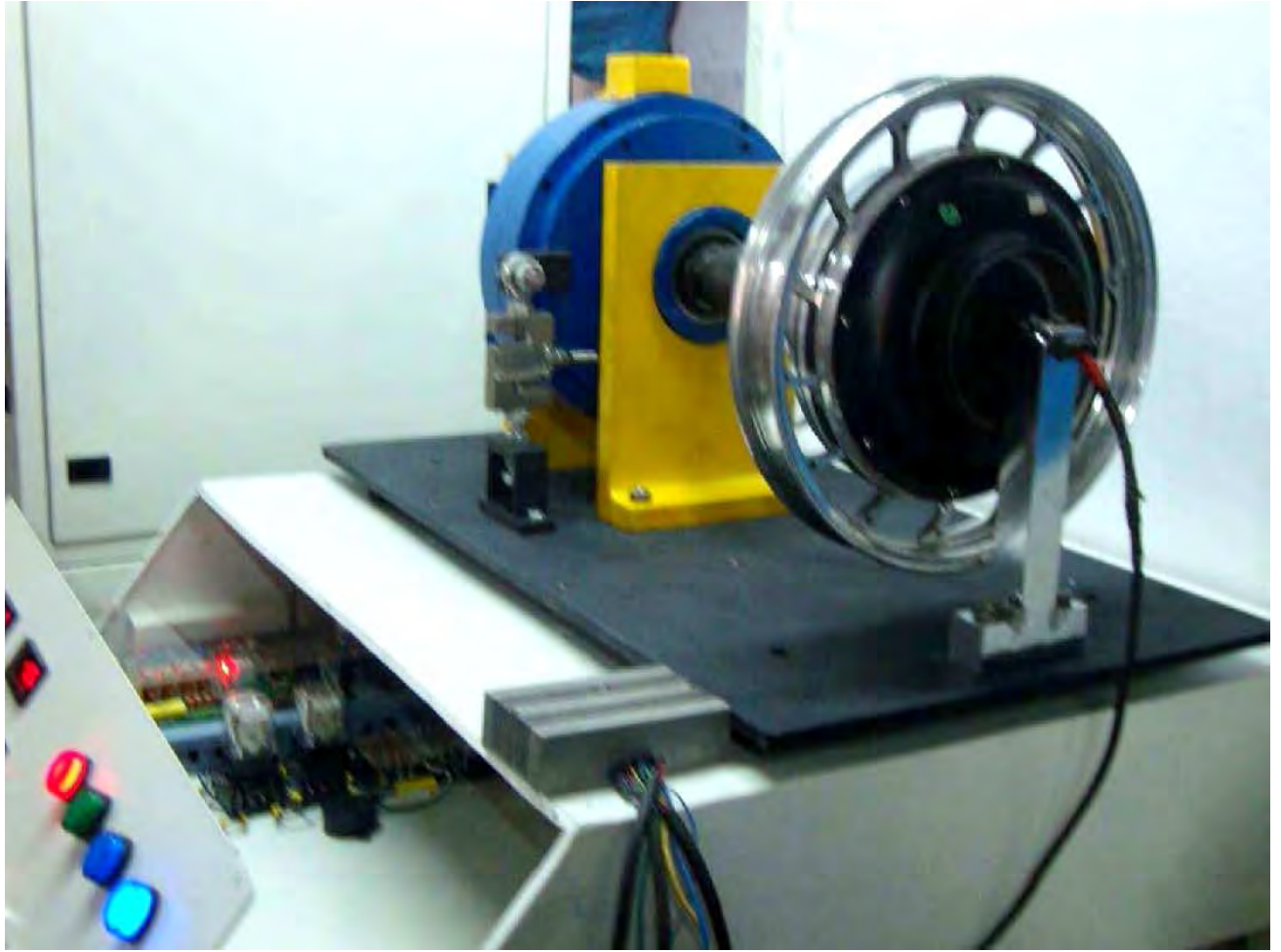


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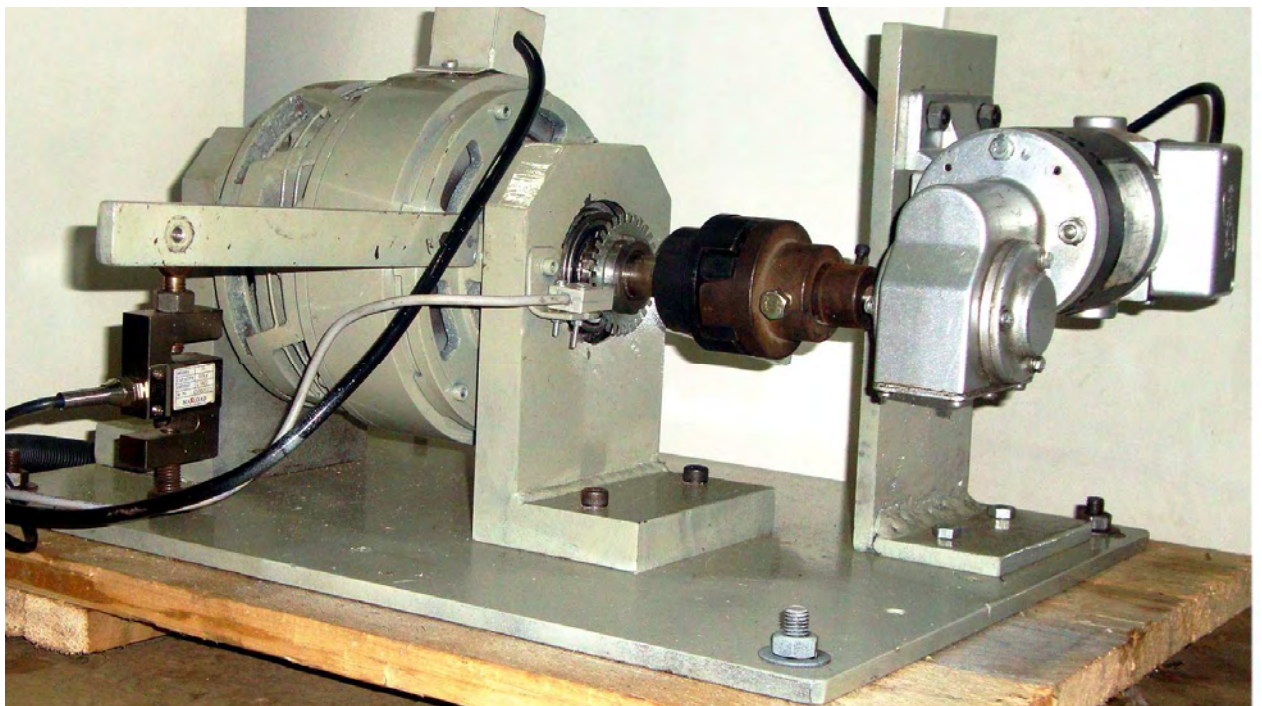
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POWDER DYNAMOMETER used Wiper Motor Testing



E Bike-BLDC Hub Motor Testing with Powder Dynamometer



Geared Motor Test with Powder Dynamometer

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AC Induction Motors Tested on Powder Dynamometer



Water Cooled Powder Dynamometer

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Manual Dynamometer Controllers



Computerized- Data Acquisition Control Panel for Dynamometer