



MTS Drivetrain Dynamometers

Compact and Powerful

MTS has developed new permanent magnet dynamometers and modular vector control drive components specifically designed for drivetrain manufacturers. Based on advanced technology first developed for Formula 1 racing gearbox testing, these drivetrain dynamometers feature the low inertia and dynamic performance required to accurately reproduce the loading from an internal combustion engine during drivetrain development. They are compact in size, enabling the dynamometer to be directly connected to the component being tested, eliminating shafting and joints that cause torque errors during the test.

MTS Drivetrain Dynamometers can be coupled to test systems for a wide range of applications and are the most adaptable dynamometer component available today. They are particularly well suited for transaxles and transfer case development due to their very compact size. High horsepower vehicle development, stability control systems calibration, and transmission shift tuning can also benefit from this new technology.

These dynamometers can come equipped with engine torque pulse simulation capability. The low inertia and extremely high power allows MTS to simulate the actual cylinder firing torque during each revolution adding a new level of fidelity to drivetrain performance testing.

Drivetrain Dynamometers from MTS are also exceptionally clean and quiet. Due to a unique design that does not require messy oil or noisy fans to keep the rotor cool, these dynamometers are capable of being used in anechoic environments to study the noise, vibration and harshness properties of drivetrain components and systems.

Suppliers of transmissions, transfer cases, axles and prop shafts now have an efficient means of simulating engine dynamics in a realistic test configuration. Drivetrain test engineers will get unprecedented insight into the performance of individual components and systems in a controlled, repeatable and cost-effective test environment.

Drivetrain Test Systems

MTS offers the integration of this dynamometer in a complete system, including input and output dynamometers for different test applications such as transmission only, or complete driveline testing, in 2WD or AWD configurations. Traditional AC dynamometers as well as MTS proprietary permanent magnet technology can be seamlessly combined to meet your application needs.

The MTS Advanced Dynamometer Control (ADC) system controls the dynamometer system in coordinated modes that are representative of the vehicle operation. Software control features can include engine torque pulse simulation and inertia simulation. Optional components are available to allow the system to connect to the specimen ECU or vehicle CAN network.

System Content

MTS DRIVETRAIN DYNAMOMETERS

- » Rated power up to 750 kW (1000 HP)
- » 9,000 RPM max speed
- » Rated torque up to 1200 N-m
- » Extremely low inertia of 0.1 kg-m²
- » Small diameter, compact design
- » Integrated speed measurement
- » Quiet liquid cooling

MTS POWER ELECTRONICS

- » Modular vector control drive
- » dV/dT filters
- » Isolation transformer
- » CE and UL certified

MTS ADVANCED DYNAMOMETER CONTROLLER (ADC)

- » Coordinated speed and torque control
- » Data acquisition
- » Test scheduling
- » Data analysis
- » Reporting

Optional features

- » Engine torque pulse simulation
- » Real time simulation
- » 12,000 RPM max speed

Visit our web site at: <http://www.mts.com>



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