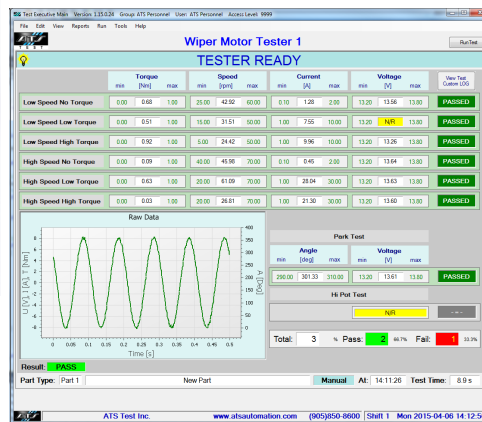




Small Horsepower Motor Production Test Equipment

TEST SYSTEMS



Motor Testing

Description

Motor testers measure motor performance at no load and at pre-defined load(s). Setting parameters for motor voltage, applied torque, and measure resulting motor current and speed while ramping applied motor torque to develop the complete motor performance characteristic graphs.

All tests can be performed for motor rotation in both clockwise and counter-clockwise directions.

Software shall monitor for fail conditions such as, but not limited to:

- Power supply current foldback
- Power supply voltage out of expected range
- Torque load out of expected range
- Excessive time to complete test

Typical drivetrain for dyno testing of motors

- Torque transducer to monitor loading
- Encoder to monitor angular position
- Hysteresis, eddy current or particle brakes to apply resistive loading
- Clutch to couple / decouple drivetrain
- Servomotor to apply backdrive / engage spring coupling with DUT

Product tested include:

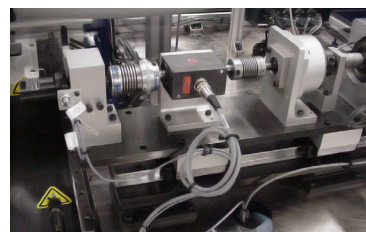
- Door lock actuators
- Reclining mechanisms
- Actuator motors in consumer and medical products
- Front Wiper Motors
- Rear Wiper Motors
- Wiper Module Systems
- Window Lift Motors
- Power Steering Motors
- Sunroof Motors
- Power Seat Motors & Actuators
- Power Door & Door Lock Actuators
- Instrument Cluster Stepper Motors
- Deployable Running Boards
- Starter Motors

Capabilities

- Torque up to 500 Nm
- Speed up to 20,000 RPM
- Voltage applied up to 650 VDC
- Max current draw up to 1000A

Configurable test ranges for the following parameters or motor features (system instrumentation is selected to match product specifications):

- Full Parametric Performance Test
- Torque vs. Speed Curve
- Current vs. Speed Curve
- Load-Point Test
- Noise, Vibration, & Harshness (NVH) Analysis
- Diagnostic Communications Program & Test
- Dynamic Park Angle Test
- Motor Commutations
- Capacitor / Noise Suppressor Test
- Travel Direction
- Hall Effect Sensor Test & Calibration



Contact ATS directly for application review or for product specific applications beyond the scope of this document.



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