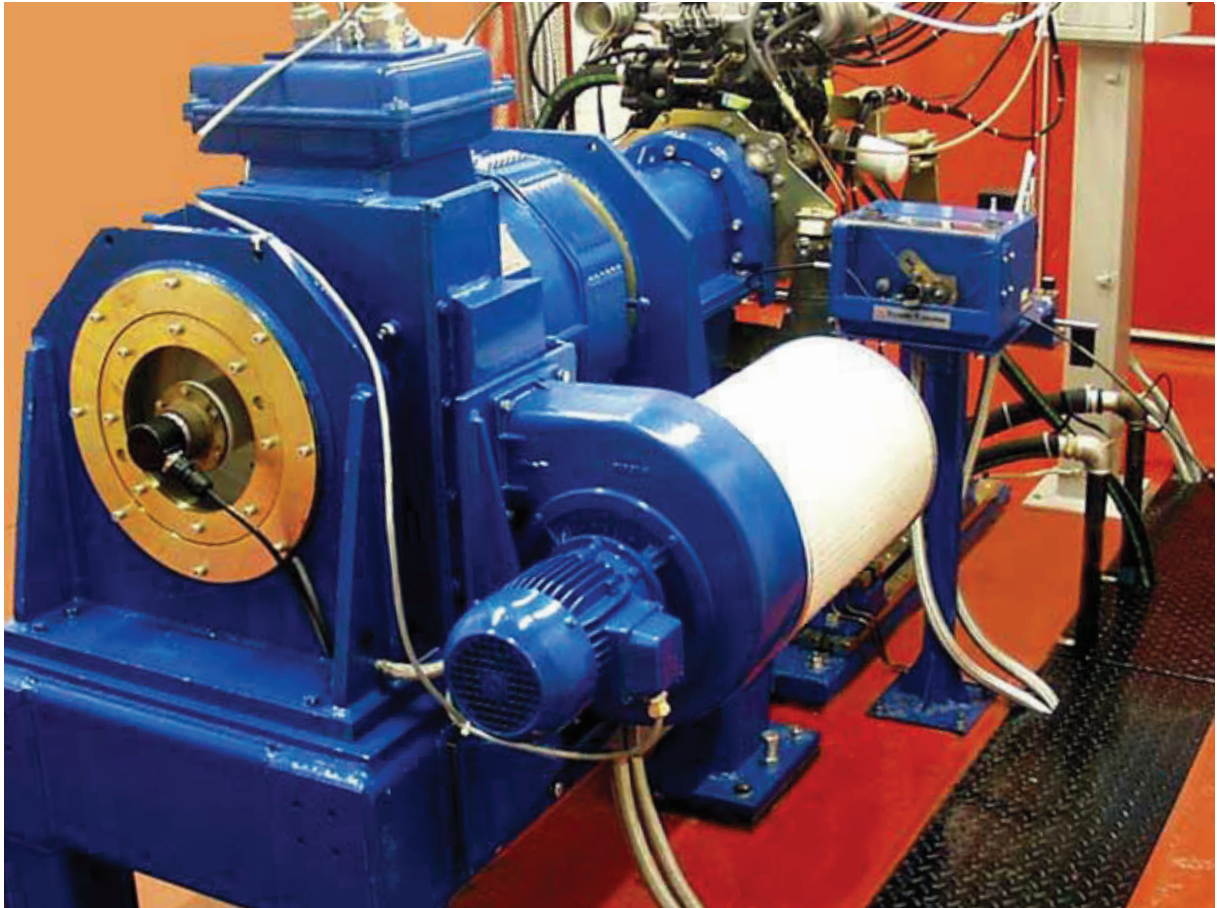




fact sheet: **ac dynamometer systems**



- > Transient and emission test capability
- > High acceleration rates
- > Fast and accurate dynamic response
- > Low inertia
- > High speed operation
- > Air cooled
- > Trunnion and foot mounted configurations
- > Optional jackshaft
- > Standard or Hi-dynamic performance

fact sheet: ac dynamometer systems

APPLICATIONS

The Froude AC dynamometer range is designed to meet the requirements of high performance motoring and absorbing engine development and Quality Assurance testing. Available in trunnion and foot mounted configurations and with a range of additional options including jackshafts and Hi-dynamic performance, these machines have been specifically designed to provide the performance and durability required for today's testing environment.

DESCRIPTION

The AC dynamometer is constructed using a low inertia AC motor especially designed for engine test applications mounted on a substantial fabricated baseframe. On foot mounted versions torque is measured using an in-line torque hub. For trunnion mounted machines a precision strain gauge load cell is used. As an option both versions can include an integrated jackshaft that provides additional overhung load capacity for the engine drive shaft.

Heat generated within the dynamometer is dissipated using the integral cooling fan. The AC dynamometer is supplied with a 4 quadrant flux vector AC inverter. This state-of-the-art technology incorporates high speed IGBT (Insulated Gate Bipolar Transistor) and sophisticated control algorithms to provide excellent transient response and steady state control. The drive incorporates a special input stage which operates at near unity power factor, minimises supply current harmonics and in regeneration mode, frequency matches to the mains supply. The AC dynamometer and inverter drive unit are designed for use with

Froude's range of *Texcel* control and data acquisition systems.

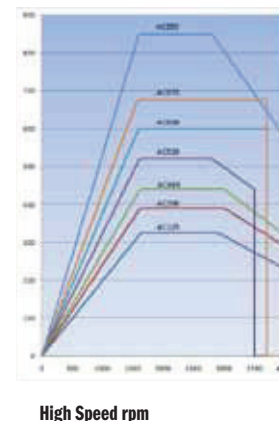
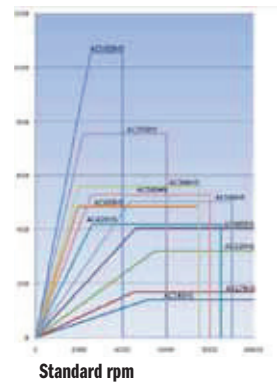
SPECIFICATION

- > Standard range of AC dynamometers consists of machines up to 1,055 kW
- > Standard torque hub measurement accuracy is $\pm 0.2\%$ of the full rated torque of the dynamometer
- > Speed is measured using an encoder providing an accuracy of ± 1 rpm
- > Transient response typically 9000 rpm/sec
- > Operating voltage 380/416V 50Hz or 460V 60Hz
- > Compliant with EMC legislation

OPTIONS

- > Non-standard sizes are available on request
- > Integrated jackshaft to increase the overhung load capacity of the dynamometer
- > Hi-dynamic performance
- > Deadweight calibration equipment
- > Control and Data Acquisition systems
- > Throttle actuators/In-cell ancillaries
- > Engine support stands

Froude maintains a policy of continuous research and development and specifications are subject to alteration without notice.



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