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fact sheet:  
**engine test systems**



- > Industrial CPU and Software language for control and data acquisition
- > PC Windows™ based Graphical User Interface
- > Intuitive operation
- > Programmable test sequencer
- > Steady state and Transient testing
- > Exhaust emission test cycles
- > Road load profiling
- > Transmission simulation
- > Integrated digital control and data acquisition
- > ASAM MCD and ACI interfaces
- > Powerful logging and alarm capability
- > Powerful post test data analysis package
- > Network connectivity

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Froude is one of the World's leading suppliers of engine testing systems. We are able to offer one of the most comprehensive range of eddy current, hydraulic and AC dynamometers available for automotive, heavy duty and industrial diesel engines. Together with our '*Texcel*' digital control and data acquisition systems we can provide solutions from simple overhaul test applications through to high level research and development facilities.

### AC DYNAMOMETER SYSTEMS

Froude range of AC dynamometers is designed to meet the rigorous requirements of high performance engine development testing. The low inertia AC motor is mounted on a robust base frame with optional jackshaft to provide exceptional overhung load capability for the engine drive shafts. Torque is measured by either an in-line torque hub on the foot mounted version and by load cell in the trunnion bearing mounted version.

### AC DYNAMOMETER AT A GLANCE

- > Power - 140kW to 1,055kW
- > Steady state and transient test capability
- > Road profile, vehicle inertia and transmission simulation.
- > Fast and accurate dynamic response
- > Low inertia
- > High-speed operation
- > High overhung load capability
- > Air cooled
- > IGBT control
- > Four quadrant control
- > Optional jackshaft
- > Standard transient or optional hi-dynamic performance drives
- > Quality audit testing
- > Engine development testing

### EDDY CURRENT AND HYDRAULIC DYNAMOMETERS

The eddy current and hydraulic dynamometers have been designed to be compact, robust with low maintenance requirements, servicing a power range from 30kW to 50MW. They are designed for use in R&D, quality audit, production, educational and post overhaul testing applications. They can also be used on component test rigs, transmission test rigs and electric motor testing applications. Due to the robust easy to use design the eddy current dynamometers provide an ideal solution for many applications.

The 'F' range of hydraulic dynamometers are the ideal for the arduous requirements of heavy industrial and smaller marine diesel applications.

### ENGINE TEST CELL PRODUCTS

Froude provide a range of standard in-cell and ancillary products to complete the test cell installation. This includes engine and dynamometer test stands, engine water and oil cooling modules, throttle actuators, and engine start systems. We can also assist in design studies for the necessary services such as exhaust, ventilation and cooling water systems.

### CONTROL AND DATA ACQUISITION

Starting with the Texcel V4 control system, Froude is able to offer control and data acquisition systems to suit every users needs.

The *Texcel V4* control system provides dynamometer and engine throttle control only whereas the *Texcel V12* combines sophisticated control software functionality with an intuitive easy to use Graphical User Interface (GUI). Its modular software packages enable the system to be used for engine development and performance, quality audit, mechanical durability and overhaul testing requirements. This approach provides the user with the option to start with a basic initial system with the ability to add additional software modules increasing the systems functionality as the testing requirements of the test cell change. The *Texcel V12* hardware package can be used with eddy current, hydraulic and AC dynamometers, enabling it to be utilised in a wide variety of engine testing applications.

A typical engine test also requires the measurement of fuel consumption, blow-by, smoke and emissions. The software is designed to operate with a wide range of these devices making it the heart of the test cell in acquiring important test data.

### TOTAL SYSTEM CAPABILITY

From the planning and specifying of the engine test facility to the installation, commissioning and training on the test equipment, Froude Hofmann can provide a total solution.

Our team of experienced multi-disciplined engineers form the core skill base on which our business is built. From mechanical and electrical design of dynamometers to the development of sophisticated software systems for control and data acquisition, we can meet your requirements.

The combined resources from our worldwide operations integrate to meet the increasing demands of the market. The solutions we provide to the global customer base aim to meet these requirements of:

- > Cost competitive
- > On-time delivery
- > Total customer support
- > High quality reliable products
- > Customer satisfaction

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Further information from:

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