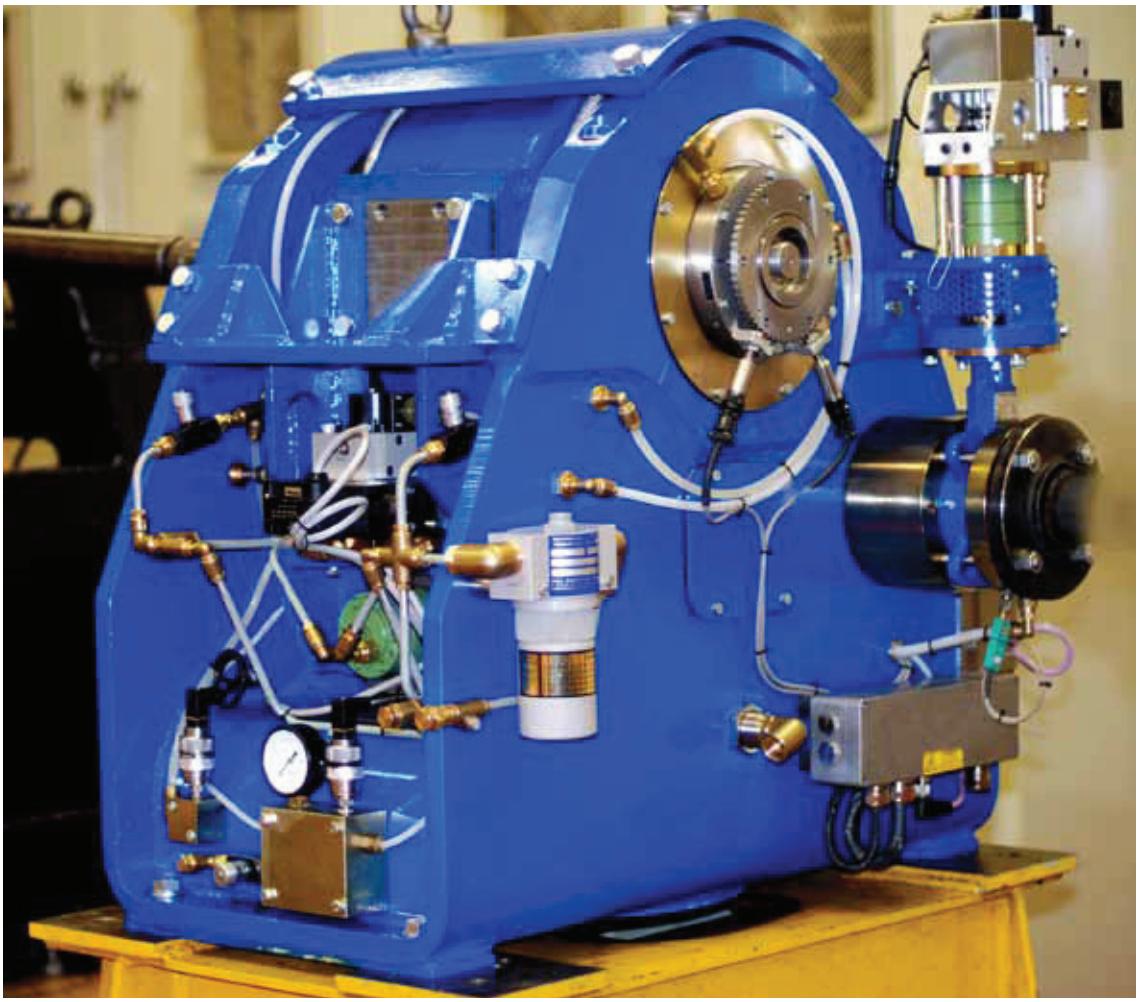
Froude

fact sheet:
hs range
high-speed dynamometers



- High accuracy torque measurement
- High accuracy speed and torque control
- Rapid load response
- High reliability
- Easy maintainability
- Fail safe operation
- Wide operating envelope ideally matched to large range of turbo shaft engine applications
- Complete with hydraulic power pack for lubrication and control
- Compact size
- Rated speeds up to 30,000 rpm
- Rated powers up to 30,000 kW

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APPLICATIONS
- **Research and development**
- **Production**
- **Post overhaul testing**
- **Direct drive turbo shaft**
- **Power generation turbines**
- **Gas compression turbines**
- **Marine propulsion turbines**
- **Turbine development**

DESCRIPTION

The Froude HS range of hydraulic dynamometers have been specifically designed for gas turbine testing and are compact, robust with low maintenance.

As standard, the dynamometers are fitted with two half couplings allowing connection at either end which are oil injected onto the shaft, as are the rotors in the HS590-2 and above sizes of dynamometer. The HS125, HS150 and HS2600 have a one piece rotor shaft manufactured from a stainless steel forging.

Shaft bearing lubrication is forced jetted oil supplied from a separate lubrication module that also provides oil for the servo hydraulic control system.

The dynamometer working compartment consists of special semi-circular shaped vanes cast into stainless steel rotors and stators. Water flowing in a toroidal vortex pattern around these vanes creates a torque reaction through the dynamometer casing which is resisted and measured by a precision load cell. The dynamometer load is controlled by a 'characterised' water outlet valve, operated by a closed loop electro hydraulic servo system.

The power absorbed by the dynamometer is carried away by the water in the form of heat.

SPECIFICATION

The standard range of Froude HS dynamometers extends from 1680 kW to 15,000 kW in single machine configuration and up to 30,000 kW in tandem configuration and speeds up to 30,000 rpm.

Torque measurement accuracy is ±0.25% of full rated torque of the dynamometer.

Speed is measured by a pulse pickup operating with a 60 tooth wheel and gives accuracy of ±1 rpm.

Froude dynamometers are painted traffic blue RAL 5017.

OPTIONS
- Calibration equipment
- Calibration weights
- Paint colour

ADDITIONAL PRODUCTS
- Dynamometer Texcel VX100 controllers
- High speed flywheels
- Test stands and trolleys
- Engine cradles/adaptor frames

CUSTOMER SERVICE AND SUPPORT
- Commissioning and installation service
- Comprehensive in-house and/or on-site training for customer engineering, operator and maintenance personnel
- Tailored preventative maintenance contracts
- Technical helpline support

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

Further information from:

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