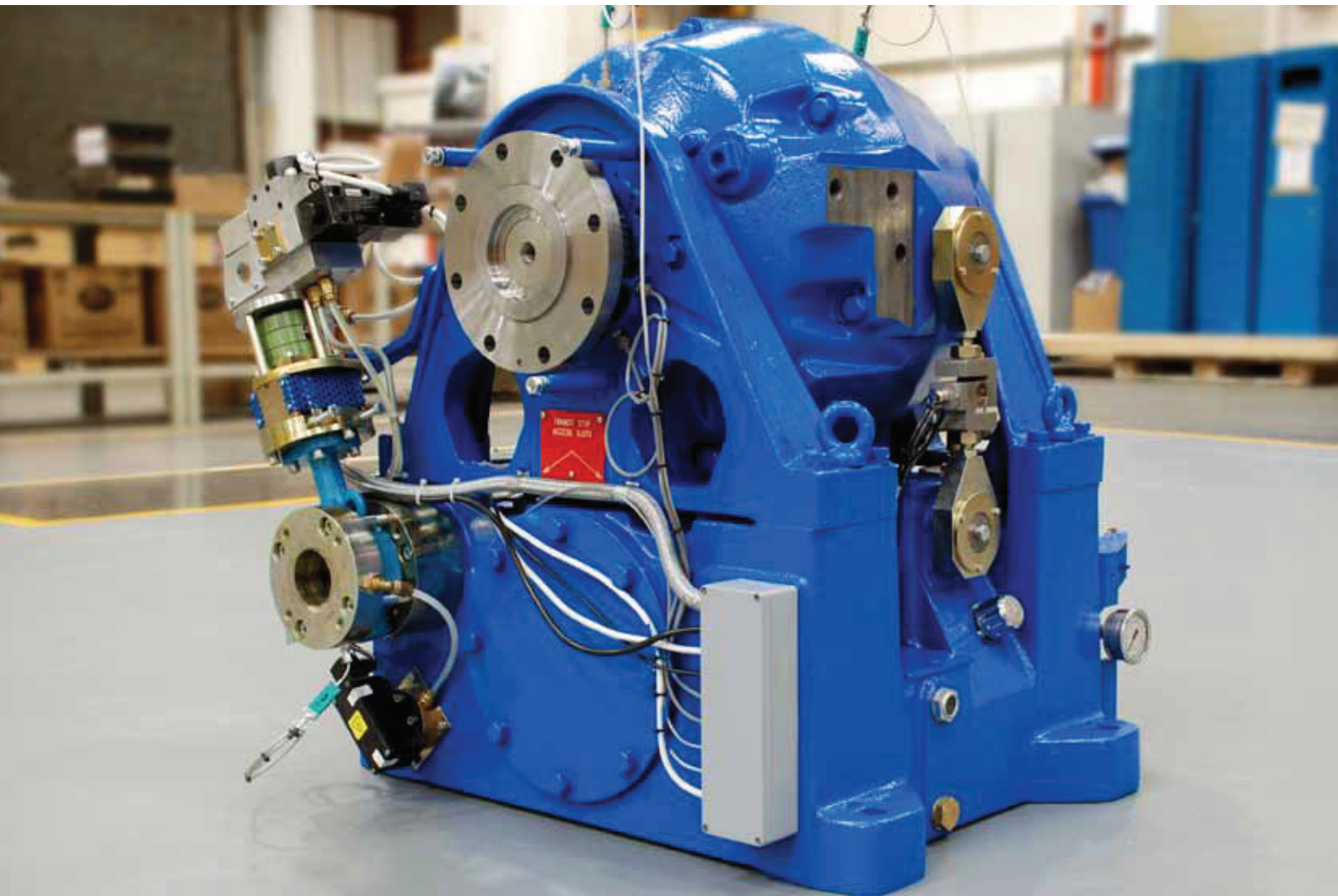




Froude

fact sheet:
f range hydraulic
dynamometers



- > High accuracy
- > Servo load control
- > Rapid response
- > Stable operation
- > High reliability
- > Easy maintenance.

fact sheet: f range hydraulic dynamometers

APPLICATIONS

Development, production and post overhaul testing of:

- > **Automotive petrol and diesel engine**
- > **Industrial and marine diesel engines**
- > **High performance competition engines**
- > **Turboprop, turboshaft and power generation turbines**
- > **Engine components**
- > **Electric motors**

DESCRIPTION

The Froude F range hydraulic dynamometers have been designed to be compact, robust and allow easy maintenance.

As standard the machines are fitted with two half couplings allowing connection at either end. These, along with the rotor, are oil injected on to the main shaft thus eliminating stress raising keyways. Grease lubrication is replaced by the optional 'oil mist' system for the High Speed versions.

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

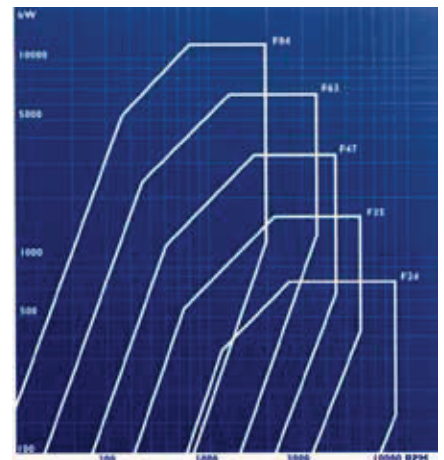
The standard range of Froude F type hydraulic dynamometers extends from 750 kW up to 35,000 kW and speeds up to 14,000 rpm. Torque measurement accuracy is $\pm 0.25\%$ of full rated torque of the dynamometer.

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

- > High speed versions up to 16,000 rpm
- > Calibration equipment
- > Shaft bearing thermocouples
- > Water inlet pressure switch
- > Water inlet valve, pneumatic or servo operation
- > Water outlet valve fail-safe device
- > Water inlet and outlet thermocouples
- > Bi-directional machines
- > Paint colour



F Range Dynamometer Capacity Chart

PERIPHERALS

- > Dynamometer and engine controllers
- > Data acquisition systems including automatic test sequence control and graphical user interface

CUSTOMER SERVICE AND SUPPORT:

- > Facilities planning 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.

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