Series 1600 Test Stand
Series 1600 Test Stand

The Series 1600 test stand enables the testing of both large single cylinder pumps, including all the 'C' range, many 'X', 'D' and 'E' sizes, as well as multi-cylinder pumps. The design fully meets international standards and incorporates many features which will appeal to both engine manufacturers and field service workshops.

The infinitely variable speed range provided by a 30kW (40 hp) thyristor controlled motor, is 40 to 1000 rpm. A flywheel of 84 kgm² is fitted as standard.

A pivoting console including the instrumentation, controls and metering system can be positioned for operation on either side of the test stand. The fuel controls and pipe connections are located at the front of the table for maximum convenience and safety.

A choice of metering system is available; for multi-cylinder pumps an injector mount together with a set of 12 ‘250cc graduates’, top filling and bottom dumping. For single cylinder pumps metering is performed using a 500cc positive displacement single unit metering module mounted in the console. If both multi and single cylinder pumps are required to be tested the positive displacement metering module can be supplied as a self contained unit for fitting on the test stand bedplate adjacent to the cambox.

A cambox can be supplied for lifts up to 30mm together with pump mounting kits.

Specification:

Drive
30kW (40hp) Thyristor controlled variable speed drive with full overload protection.

Speed
Standard output shaft speed range of 40 to 1000 rpm in both directions, in one range.

Speed Control
Fully closed loop speed control system with integral control giving zero steady droop. Selection by rotary potentiometer.

STOP
Press button operated regenerative braking from the set speed to stop condition

Emergency Stop
Stop buttons each side of control console isolate drive and feed pump and activate a pneumatic brake.

Diagnostics
Built-in LED display diagnostics

Flywheel
Inertia 84.0kgm²

Fuel System:

Supply & Controls
Single pump for fluid supply driven by a 1.5kW 3-phase motor with overload protection. Variable pressure control from vacuum to +3 bar at a flow of at least 725 litre/hour with remote control for setting.

Tank
54.5 litre working capacity with sight tube/drain pipe, situated for easy access.

Temperature Control
Electronically operated temperature control linked to oil/water heat exchangers and a 2.5kW tank heater. Water consumption 9 litre/min (2 gallon/min) at a maximum heat extraction rate of 7kW with an oil/water temperature difference of 20°C. Temperature accuracy of better than ±2°C. Controlled by a rotary potentiometer with a pre-set position of 40°C ±2°C and variable from 25 to 55°C

Calibration System
12 of set 250cc bottom dumping graduates or a 500cc single unit metering module

Shot Count
Electronic shot count with pre-selected counts of 25, 50, 75, 100,150, 250 and 500 turns.

Table Connections
Connections include test oil supply and return, auxiliary gauges, filtered suction, back leakage measurement.

Lube Oil Supply
Delivery up to 410 litre/hour 0-5 bar pressure. Tank capacity 22 litre. A 2.5kW heater is used which limits the lube oil temperature to 44°C

Instrumentation:

Tachometer
Digital display accurate to ± 1rpm

Fuel Supply
Pressure gauge calibrated to –1 bar to 4 bar, and –30 in. Hg to 0 to 60 psi

Auxiliary
Gauges 100mm calibrated:
(i) 0 to 7 bar / 0 to 100 psi
(ii) 0 to 14 bar / 0 to 200 psi

Lube Oil Supply
Gauges 75mm calibrated:
(i) 0 to 7 bar / 0 to 100 psi
(ii) 0 to 14 bar / 0 to 200 psi

Temperature
Indicated on tachometer display
Resolution 0.1°C accuracy ± 25°C at 40°C

‘In-range’ lamp providing indication of ± 2C of desired temperature

Injector Mount
Quick change injector mount to suit ‘S’, ‘T’ and orifice plate injectors (where fitted)

Phasing
Low pressure spill standard. Electronic dynamic measurement optional for multi cylinder pumps.

Auxiliaries
Switched 12V or 24V dc 5A max current for solenoid operation. Protected by overload trip 24V 1Ph 50Hz to operate inspection lamp or pump solenoid. 110V 1ph 50Hz to operate external metering system from multipin sockets. Hours counter for schedule maintenance.

Services Required

Electrical Supply
380 to 420V 3 Ph 50Hz
440 to 480V 3 Ph 60 Hz

Cooling Water
Minimum inlet pressure 3 bar
Maximum inlet temperature 15°C
Flow rate 1080 litre/hour

Contact your local Hartridge™ distributor for more detailed information or visit www.hartridge.com

Continuous development is taking place. Hartridge™ reserves the right to alter the design and/or specification without prior notice.

©Hartridge™ 2005

Tel: +44 (0)1280 825600
Fax: +44 (0)1280 825601
Email: sales@hartridge.com

www.hartridge.com