

SERVOTEST

SERVOHYDRAULIC TEST AND MOTION SIMULATION SYSTEMS

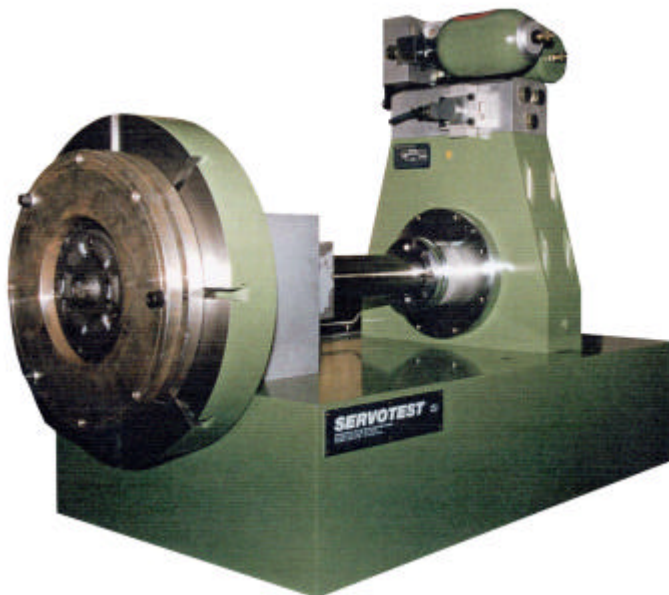
Clutch Test System

The system was designed to carry out endurance testing and characterisation of clutches and requires reliable testing to ensure high quality standards. The solution provided by Servotest utilises precision servohydraulics combined with state-of-the-art, unique techniques in digital control systems and latest PC technology. It is based around one of Servotest's rotary actuators which is very robust and requires little maintenance to only a few of the components.

Two identical machines were supplied, each with the ability to perform the required characterisation and endurance tests, as well as performing characterisation tests every given number of cycles during the endurance tests. This allowed AP to build up a comprehensive picture of the deterioration in the clutches seen over a long service life.

The system is controlled using the Servotest state-of-the-art DCS2000 digital control system. A single control unit runs both of the rigs independently, combining greater test flexibility with efficiency of cost and space.

An existing 280 bar hydraulic power supply powers the system.



SYSTEM BENEFITS

- Wide selection of programmable test parameters for increased flexibility.
- Dual rig system allowing tests to be run separately or in unison from the same controller.
- Accurate transducer measurements of rotation and torque, ensuring high repeatability.
- Great accuracy of digital control with wide range of safety features to ensure trouble free operation.
- Engineered for increased service life, reliability and maintainability.

OTHER APPLICATIONS & SIMILAR SYSTEMS

This compact rotary actuator system with integral seismic mass can be used in many other component test applications which require any form of highly accurate angular or torque control. A range of attachments and fixturing is available which can be located onto the versatile base of the machine.



SYSTEM & SOFTWARE SPECIFICATION

Both tests are run in torque control. The characterisation test is a hysteresis loop of torque vs angle, while the endurance test is based on sine waves up to 50Hz.

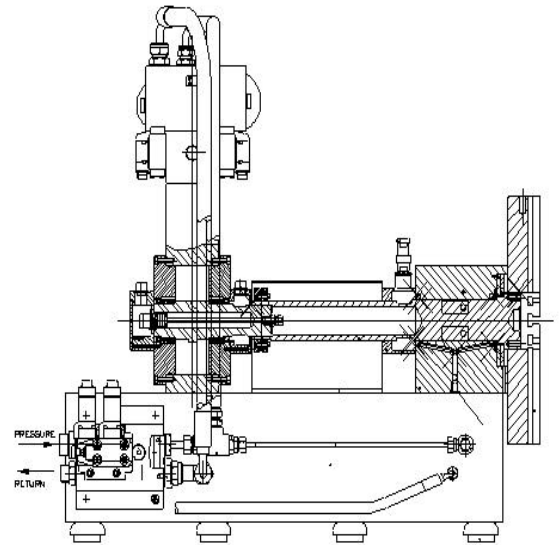
Angle of motion: +/- 25 degrees

Dynamic torque: 0.75kNm

Static torque: 1.0kNm

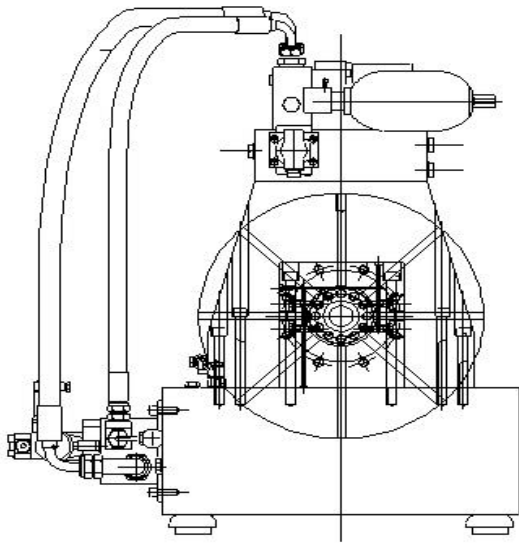
Torque cell accuracy less than 0.5% of reading or 0.025% of full scale below 5% of full scale.

Windows NT Graphic User Interface



FACILITIES REQUIRED

- Electrical power supply
- Cooling water supply



SCOPE OF SUPPLY

Two identical machines both comprising the following main items:

Piston Torque Actuator – with 750Nm dynamic torque and 50 degree stroke

Fitted with one off 55l/min servovalve
Mounted on a bed plate measuring 1000 x 500 x 250 mm (l/w/d)

Clutch mounting plate assembly to provide interface between the actuator and the test clutch

Dual pressure solenoid control manifold and local hoses

One off DCS2000 digital control system controls both systems.

DCS2000 Software: Generic, Multisys, Datalogger, Replay, Block Prog, Universal File Converter (UFC).



Component Testing - Vehicle Testing - Vibration Test Systems - Multi Axis Shake Tables - Seismic Simulation - Metallurgy Research - Adv

SERVOTEST

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