

2 Poster Motorcycle Ride Simulator

The World of Ride Simulators

The 2 Poster Motorcycle Road Simulator System is designed to reproduce responses experienced under normal driving conditions, to test motorcycle body, frame, and suspension components.

The forces generated are reproductions of road surface irregularities as recorded by field instrumentation of actual responses.

A world of experience...

Servotest is a World Class Test and Motion Simulation Company, with experience of operating around the globe, for multi national corporations, smaller specialist companies and Government Departments. Since the 1940's our engineers and equipment have been at the forefront of our industry. Product and Service quality is maintained by a program of continuous training and development of our people and equipment. We operate in all of the key industry sectors for our marketplace, including Automotive, Marine, Civil Engineering, Aviation, Defence, Aerospace and Traction. The company holds both ISO14001 and 9001 Quality accreditation marks and is a member of many national and international trade organizations.



System Features

The test system incorporates two heavy duty servohydraulic actuators/ servovalves. These actuators are fatigue rated to 10kN, 210Bar/3000 PSI operation. The actuators have a 65mm diameter piston rod and are designed with 250mm of total stroke capability.

An integral, coaxial mounted Linear Variable Displacement Transducer (LVDT) is housed within the actuator design to provide precise displacement data. In addition to the LVDT, a Moog 760 series, 2 stage servovalve is included to provide precise control flow of oil to the actuator.

The hydraulic portion of the system utilises a single hydraulic power supply rated at 90 l/minute (LPM) at 210 Bar. A high pressure, 3 micron filter along with pressure and return line accumulators are included. Dual pressure solenoids and a high pressure hose set for routing the hydraulic fluid to the distribution block are also included. The distribution block contains one inlet port and two out ports with hose set to the actuators and is also then rated at 200 l/min at 210 Bar.

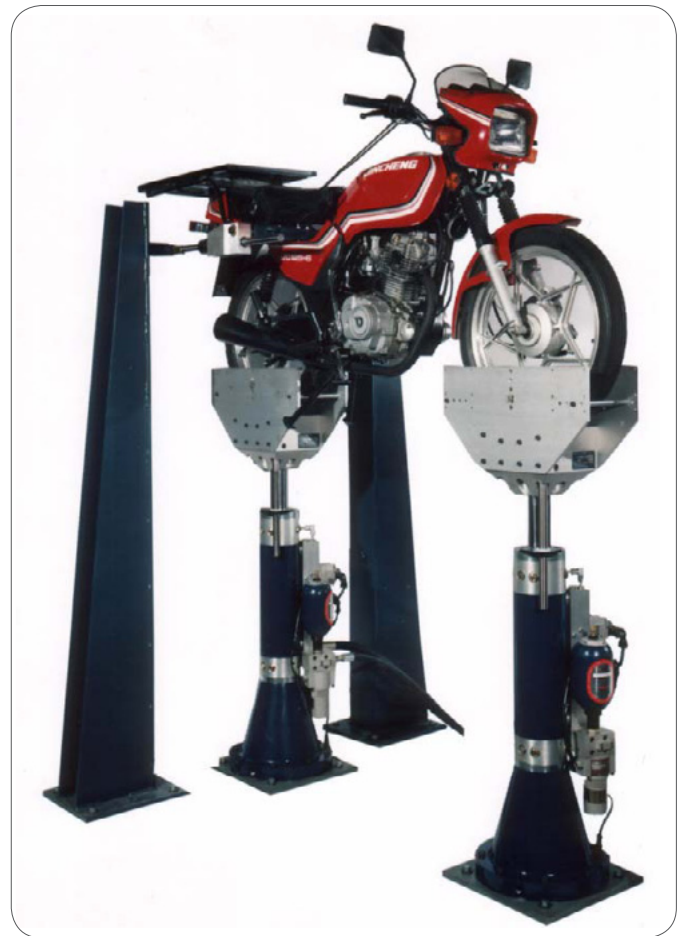
A motorcycle restraint system is included with the 2 Poster test system. The restraint system is designed to keep the motorcycle in the vertical plain, while not restricting the suspension movements.

Wheel Pans

Aluminium alloy super stiff tapered base. Side supports with movable tyre and rim restraint bars. Antirotation rod attached to sliding bearing on actuator.

- Maximum Tyre Width: 200mm
- Maximum Tyre Diameter: 720mm (approx without compression)

Wheel-Pan size can be revised and engineered as necessary to suite customer's tyre size.



System Benefits

- Great reduction in test time.
- Better control over the test being carried out and monitoring of derived results.
- Wide range of repeatable programmes to simulate different road conditions.
- Great accuracy of digital control with wide range of safety features to ensure trouble free operation.
- Advanced restraint system giving full performance without effecting the suspension characteristics.
- Engineered for increased service life, reliability and maintainability.

PULSAR Digital Control

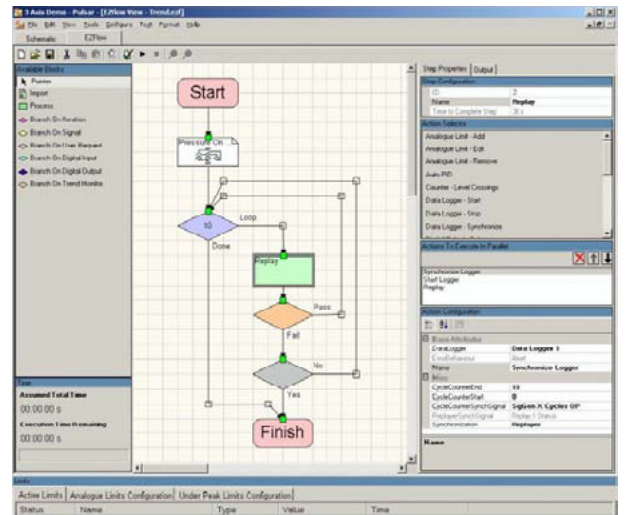
The Servotest Pulsar control system offers users the very latest in digital control for servohydraulic test and simulation systems. It employs state-of-the-art real-time control techniques to ensure optimum accuracy.

The system is based on a revolutionary I/O system, using distributed fibre-optic technology. Building on the success and popularity of its predecessor, DCS2000, the Pulsar control system provides a powerful, reliable and flexible total control solution.

The Pulsar software uses the latest and most advanced tools and techniques in software engineering, with extensive use being made of object-oriented design and programming to ensure a solid base for future development. Throughout its design, great emphasis has been placed on ease of use, without compromising the power and flexibility of the system. The system configuration is stored within industry standard database files, which are created and updated using a set of simple configuration screens.



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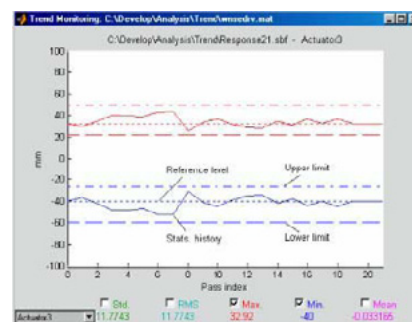


VTS

VTS is specially design package for tyre coupled road simulators. This software module allows the user to play sine sweeps or real time history files through the system. It also allows the user to control the hydraulics, if available. There are also two different user levels, engineer and operator. The operator is locked out of some of the functionality, and a password is required to change to engineer mode.

EzFlow

This powerful high level software tool allows sophisticated test sequences to be programmed simply and effectively. The programming sequence can incorporate logic functions and comprehensive test reports are automatically generated. In many cases this will become the main test set-up and run panel for customer tests. Once prepared and saved the test can be run by the operator by selecting the test and hitting the run button.

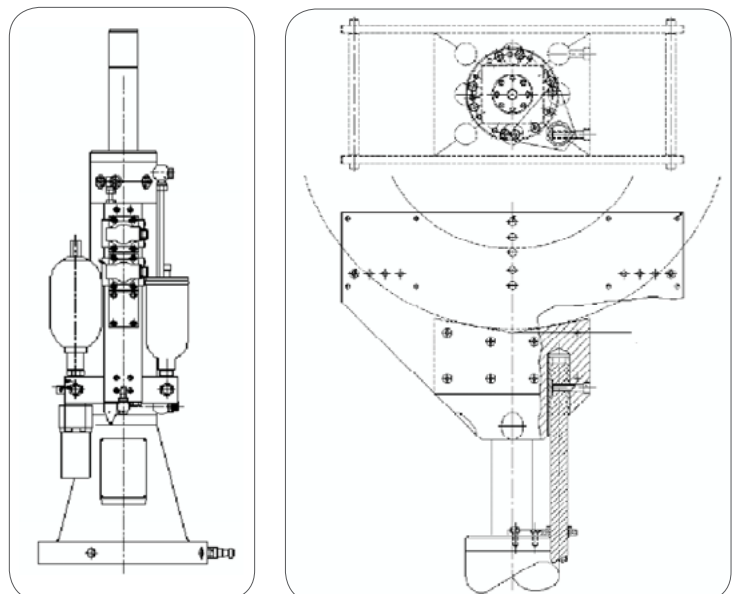


Specification

Frame:	<ul style="list-style-type: none"> • Keeps motorcycle upright whilst simulating effect due to rider mass. • Twin fabricated steel pillars. • Brace to prevent handlebar rotation. • Adjustable restraint plate to adapt to different motorcycle designs.
Actuator:	
Type	Servo-hydraulic Linear Actuators - Hydrostatic bearings.
Mounting	Integral pedestal to mount to T-slotted bedplate/magnetic bases.
Piston rod diameter	65mm
Nominal working stroke	250mm
Static capacity	± 20.3 kN at 210 bar
Dynamic capacity	± 15.0 kN at 155 bar
Transducer	Fully integral co-axially mounted displacement transducer (LVDT).
Hydraulic Power Supply:	
Type	55KW (74hp) Hydraulic Power Supply – Air-cooled.
Stand	Height-adjustable anti-vibration mounts.
Noise reduction	Pressure-pulse attenuator on outlet.
Motor type	3-phase, 50Hz / 60Hz
Pump type	Bosch-Rexroth A10VSO 100 DR – variable delivery.
Operating pressure	210 bar / 280 bar
Flow rate	101(L/min) / 98(L/min)
Dimensions:	2.190 L x 0.950 W x 1.565m H

This HPS will supply sufficient oil for testing with a typical road load drive file. This can be between 30-50% of the peak flow. The addition peak flow required during high velocity/kerb strike tests is achieved with the 10L accumulator on the SCM.

Servotest specialise in providing tailored solutions, working closely with customers to achieve solutions which match their Force and Stokes requirements.



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