

BISS Tyre Test System evaluates both static and dynamic properties of tyres, including durability under constant as well as road simulation loading. The test system features two carriages with spindle assemblies and can test two tyres simultaneously. The wheel load is adjustable with maximum load of 100 kN applied through two servo hydraulic actuators.

Tyres varying from 300 mm in diameter to a maximum of 1700 mm in diameter can be tested against a steel drum rotating at a speed of up to 300 kmph.

System measures all forces and moments acting between the tyre and drum with tests in line with ECE, DOT and SAE standard practices. The mechanical stoppers, proximity sensors and software limits incorporated prevent the wheel rim from coming in contact with the high speed rotating drum if the tyre bursts. Additional safety features include a meshed door around the testing area and an enclosure surrounding the belt running on the motor.

The system is controlled by a BiSS 2370MS digital controller with synchronous multi axis control and data acquisition.



Standard features (Customized options available)

- Load range 100 kN
- Maximum speed 300 kmph
- Tyre sizes 300 mm in diameter to 1700 mm
- Carriages on linear motion guides
- Dual carriage capability
- 2370MS digital controller with synchronous multi axis control and data acquisition
- "Green" highly efficient hydraulic power pack

Applications (as per ECE, DOT and SAE standard practices)

- Durability test
- Performance evaluation test
- Measurement of dynamic growth of rotating tire as per ECE R75
- Radial load test



Specification

Specimen details	Maximum tyre load: up to 100 kN Maximum tyre width: 375 mm
Road wheel diameter	1700 mm
Maximum test speed	300 kmph for light commercial vehicles and 200 kmph for heavy commercial vehicles
Number of carriages	2 and 4
Motor capacity	150 HP
Linear actuators (2 Nos)	Double acting single ended 100 kN force rating and stroke +/- 400 mm Includes axial load cell of 100 kN and suitable position measurement LVDT
2370MS Controller	Control channels: 3 channels of servo control Input channels: 16 Performance: Typical servo-loop update and DAQ frequency up to 5 kHz
Hydraulic powerpack	Digitally servo controlled with a flow of up to 200 LPM Operating pressure: 210 bar Power consumption: 10 to 80 kVA through "flow on demand" servo control
Total weight of the rig	15 Ton
Foot print:	LX W X H = 8000 X 8000 X 3500 mm