



Dual Station Shock Absorber Test System

SP-01-02XX

The SP-01-02XX is the industry's first high productivity shock absorber/strut/front-fork test system specially designed for use on damper production lines. The machine is used to ensure that assembled parts meet specified performance specifications. It is the result of over seven years of R&D with a focus on harmonizing production line test requirements for 2, 3 and 4-wheeler suspension components.

Individual features of the SP-01-02XX have been tested and proven by all major shock absorber producers across the country. Practically every shock absorber and strut produced in India is tested on a BISS machine.

Standard Features

- Pneumatic tooling with 3-degree rotational freedom at both ends for self-alignment
- Quick change jaw faces and spacers to switch between parts.
- Built-in hydraulic press-cum-hold assembly to perform rod-assembly insertion and test unsealed parts.
- Low-force "bull-dog" top grip to retain top end without damage, while resisting applied tensile and compressive damping force.
- Top and bottom end tooling to suit threaded and eye type mounts and custom bottom tooling to suit a variety of struts and front forks.
- Tooling suitable for 2, 3 and 4-wheeler parts.
- Configurations available from 5 to 15 kN dynamic rating and from 0.01 to 1.5 m/s velocity rating.

Unique Features

- Asynchronous dual-station operation. Doubles productivity and provides ready cross reference on test results.
- Proprietary low noise, servo-controlled pump for energy efficiency. Down to about 30% of most conventional pumps
- Contamination insensitive servo-hydraulics with readily available COTS spares.
- Optional sensors to detect complete seal insertion and to detect unsealed parts.
- Optional sensors to detect part presence and part removal to avoid duplicate tests.



Dual Station Production Test System

Specifications

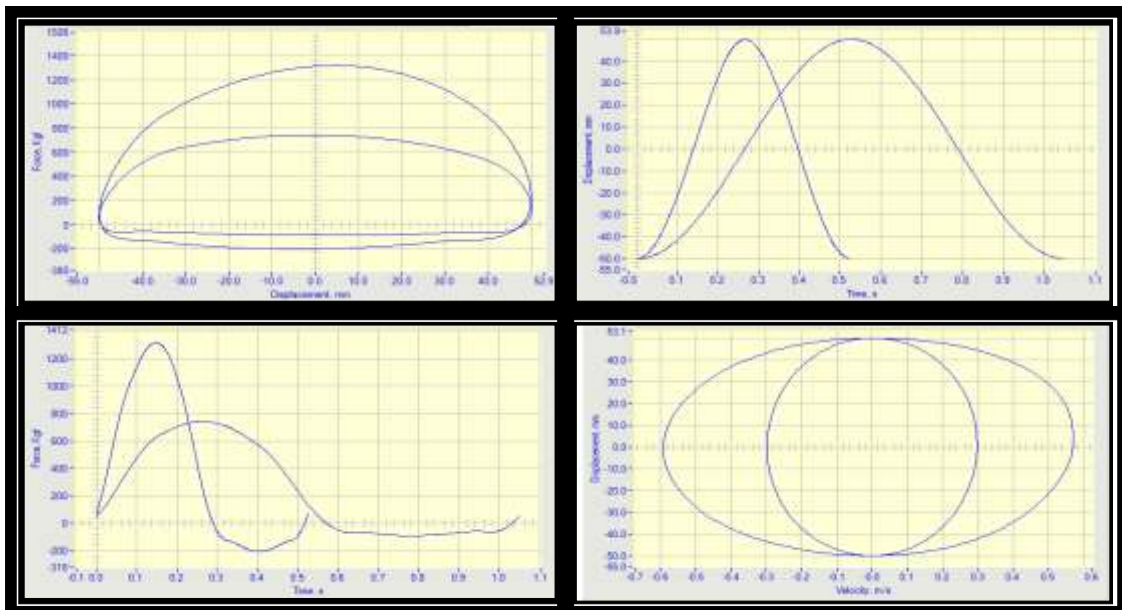
Hardware

Actuator stroke	200 mm
Dynamic force rating	5/10 /15 kN
Velocity range	0.01 to 1.5 m/s
Rod assembly insertion / hold down press 8 kN	
Safety interlocks	Against pump failure and power failure
Power rating	7.5/10/15 KVA.
Options	Light screen, part present, rod assembly inserted, grips closed
Grips	Self-aligning pneumatic top grip and hydraulic bottom grip.

Software

Fully programmable priming and stroking conditions including number of cycles	
Displacement Sensor	1 micron digital measurement
Single or multiple cycle	Up to 8 programmable velocities in single test
Gas charge/seal friction measurement with loop tilt correction	
Tolerances in terms of tension/compression damping force, energy, lag	
Adaptive control algorithm for guaranteed stroking accuracy	
Auto-calibration of stroke and load	
Auto-taring of part weight at commencement of test	
Optional banding of passed parts into hard, medium and soft	
Automatic recording of test results into Microsoft Excel spreadsheets for c.p.k. analysis, etc.	
Optional automatic assembly defect detection (missing part, backlash, etc.)	
Quality of waveform confirmed by accelerometer feedback.	

Test Results



Options for user selectable graph