

Product Code

UTSP-0450 Steel Rack Testing Systems

Utest Material Testing Equipment offers a wide range of products and services to support all aspects of mechanical and structural engineering. For other applications, additional consultancy service is available. Our experienced engineers can make your job easier. Utest can make custom design systems as it seen on the pictures.

Static testing machines below have double acting pistons with force capacities of 1000 kN, 500 kN and 100 kN. Static testing actuators can be controlled by a single hydraulic power unit. Different than the static testing machines Utest manufactured 10 Hz. cyclic testing capable 50 kN dynamic testing machine for dynamic and fatigue behavior of the connections at steel storage racks systems.

Electrical parts as indicators, system management buttons and controller is involved in the power pack. Bladder type accumulators are supplied with the pack in order to compensate pressure drops while actuator is operating and any pressure losses between the HPU and test station, in order to smooth pump ripples. Oil level, oil temperature, filter's condition and motor temperature are continuously checked by controller and system has necessary interlocks for fault conditions. Factory -set pressure relief valve prevents excessive increases in pressure. Compact designed power pack saves valuable floor space in your lab. Installed isolation manifold lets the pack running multiple test stations, preventing over pressurization, discharging system pressure separately and power isolation of the stations.

These systems are for testing different type of storage-shelves as Bending Tests on Beam End Connectors, Looseness Test on Beam End Connectors, Shear Tests on Beam End Connectors, Stub Column Compression Tests, Compressive Tests on Uprights, Bending Tests on Upright Position and Bend Tests on Beams.

Steel rack testing systems are controlled by a computer with the free of charge software uSta and uDyna. uSta and uDyna are flexible and user-friendly windows based application software for static and dynamic testing. In the software user can also create custom test sequences. Synchronized 100 Hz data transfer from feedback signals supplies detailed recording of running tests. This rate is flexible up to 4 kHz if the application is applicable. Graphical and numeric monitoring is displayed real time in the user interface. The software also includes an easy calibration check facility. The machine gives some constant load values and waits there for easy check mechanism. Furthermore uData is also delivered to customer freely, where data analyzing and reporting operations will be handled.



1



2

Technical Specifications (1)

Test Type	Bending Tests on Beam End Connectors (EN 15512-2009 Sec A 2.4) Looseness Test on Beam End Connectors (EN 15512-2009 Sec 5.3.2) Shear Tests on Beam End Connectors (EN 15512-2009 Sec 5.3.2)
Piston Capacity	2000 kN (double acting)
Piston Stroke	450 mm
Horizontal Test Daylights	2000 mm
Vertical Test Daylights	from 100 mm up to 650 mm

Technical Specifications (2)

Test Type	Test on Floor Connections EN 15512. 2009, Sec A 2.7
Piston Capacity	200 kN (Vertical load - double acting) 100 kN (Horizontal load - double acting)
Piston Stroke	200 mm (Vertical load) 200 mm (Horizontal load)

Technical Specifications (3)

Test Type	Stub Column Test Compression Tests On Uprights Test On Uprights Splices EN15512 : 2009 Sec A2.1.2
Piston Capacity	1000kn Double Acting Type
Piston Stroke	250 mm Profile and Upright Lengths From 200 mm Up To 3000 mm Can Be Tested

Technical Specifications (4)

Test Type	Cyclic Test On Beam - To - Column Connection
Piston Capacity / Stroke	10kn / 100 mm Double Acting Type (2 Off for Simulating Test Load to Beam to Column Junction) 100 kn / 100 mm Double Acting Type (1 Off for Simulating Test Load to Column)
Hydraulic Actuators	50 Kn / +/- 120 mm , 5 L / Min. (2 Off for Simulating Moment Load to Beam Ends)

Technical Specifications (5)

Test Type	Bending Tests on Upright Sections (Major Axis) (EN 15512 ,2009) Bending Tests on Beams (Major Axis) (EN 15512 ,2009)
Piston Capacity	500 kN (Double Acting)
Piston Stroke	200 mm
Vertical Test Clearance	200 mm
Horizontal Test Clearance	6000 mm X 3000 mm

