

## 314 Family Universal Test Machine

Load Capacity: 100 kN (22500 lbf)

### Overview

The 314 Family floor standing dual column electromechanical test machine is one of the most popular universal test machines on the market. Ideal for mechanical tests including tensile, compressive, bend, bond, flexural, fracture, peel, shear, tear, stress relaxation, and short term creep tests at forces up to 100 kN (22500 lbf). Versatile controller and software means that it can be configured to your performance, flexibility and simplicity requirements. Commonly used for higher force testing applications for materials and products tests, destructive and proof load tests, steel, and composites testing. Extended travel and extra wide options are available.



#### Complete system includes:

- Dual column load frame
- Electromechanical design
- Advanced digital control electronics
- Choice of precision load cell
- Choice of software package
- Host of other user-orientated features

### Features

- Robust floorstanding system - frame requires less than 0.3 m<sup>2</sup> (3 ft<sup>2</sup>) of floor space
- Oil-Free all-electric motor technology for clean operation - Environmentally friendly
- Designed for static testing on a variety of materials and components
- 100 kN (11500 lbf) load capacity for static testing applications
- Electrically powered, no special mechanical or electrical facility requirements needed
- Precision-aligned dual column load frame

### Controller and Software - Powerful, Scalable & Affordable

- Latest desktop PC or touchscreen controller for static testing applications
- Control pendant with critical controls and emergency stop at your fingertips
- User interface optimized for intuitive workflow and ease of use
- Monitor up to 20 transducer channels

### Exceptional Versatility

- Versatile system design makes it possible to engineer a variety of system configurations to different application requirements
- Dual column test space to suit a wide variety of specimens, grips, fixtures, environmental chambers, biomedical baths and other accessories
- Dual column configuration provides easy access to the test area providing easy specimen set-up and is ideal for a wide range of tests
- Compatible with a large library of Universal static test software modules



### System Specifications

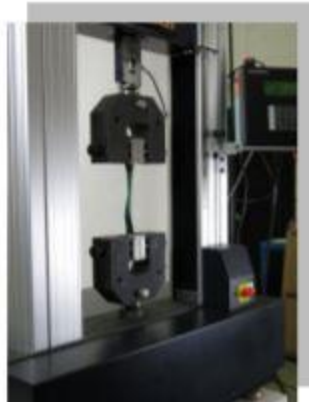
<b>Configuration</b>	<b>314</b>
Force Capacity	±100 kN (±22500 lbf)
Crosshead Travel	1255 mm (49 in)
Vertical Test Space*	1440 mm (57 in)
Horizontal Test Space**	550 mm (22 in)
Maximum Speed	300 mm/m (12 ipm)
Minimum Speed	0.0015 mm/m (0.00006 ipm)
Maximum Return Speed	300 mm/m (12 ipm)
Maximum Force at Full Speed	±100 kN (±22500 lbf)
Maximum Speed at Full Force	300 mm/m (12 ipm)
Footprint Dimensions (h × w × d)	2134 × 1168 × 584 mm (84 × 46 × 23 in)
Weight	680 kg (1500 lbs)
Power Requirements	208-230V 5.6A 50/60Hz Single Phase

\*Extended travel and vertical height options available

\*\*Wider column spacing options available

### Controller Specifications

Data Acquisition Rate	Up to 5 kHz simultaneous on force, displacement and strain channels
Load Measurement Accuracy	Meets or exceeds ASTM E4, ISO 7500/1, EN 10002-2, JIS B7721. ± 1.0% of reading down to 1/100th of load cell capacity
Strain Measurement Accuracy	Meets or exceeds ASTM E83, BS 3846, ISO 9513, and EN 10002-4 standards.



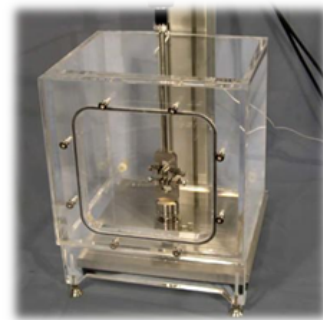
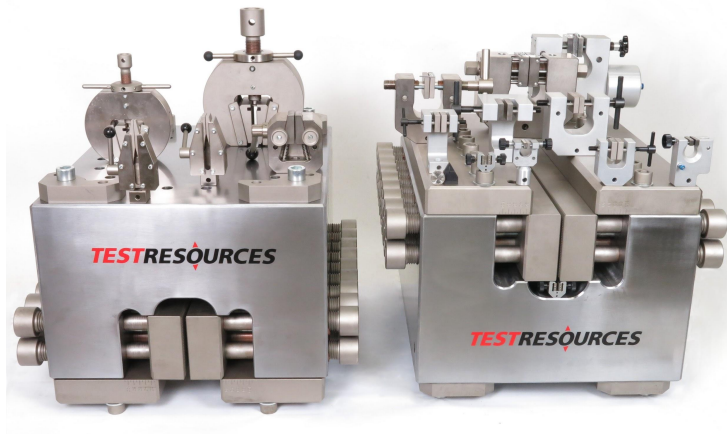
**Popular Options**

- Add Torsion Channel (convert to an Axial Torsion system)
- Software Options
  - Force Testing Package
  - Materials & Product Testing Package
  - Materials & Product Testing Plus Package
  - Premium Package
  - TestVideo add-on software module
  - TestCalc add-on software module
- Desktop or Touchscreen Computer (Windows 10)
- T-Slot Baseplate
- Environmental Chambers
  - Furnaces
  - Ovens
  - Baths
- Grips & Test Fixtures - Thousands of static and fatigue rated fixture choices. Made per recognized test standards such as ASTM, ISO, etc.
- Sensors
  - Clip On Extensometers
  - Lower force load cell
  - Strain Channel
  - Video Extensometer (DIC)
  - LVDT
  - Deflectometers
  - DCDT
  - COD displacement gage



314 family with torsion

Contact an application engineer to configure a solution to your application requirements.



*Note: Specifications are subject to change at any time without notice.*

[Contact us to request a quote and confirm specifications](#)