



## 20-50kN Electromechanical Universal Testing Machine

### NG- EML CLASS C - Double Column Table Top

The EML Class C Series addresses the needs of standardized and routine testing, providing the user high quality at the most affordable price. The dual column testing systems are suited for tension and/or compression applications with load range requirements from 20kN to 50kN. They are typically used for quality control and production testing.

#### Typical Specimens

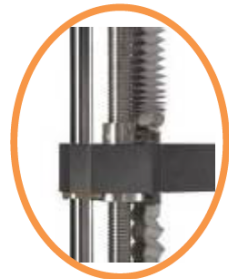
Small components, reinforced plastics, metals, wire, composites, elastomers, wood products, textiles, biomaterials, paper products, adhesives, foam, consumer products

#### Environmental Simulation:

Environmental Chamber

#### Frame:

- Robust guidance columns with self-lubrication increase lateral stiffness and ensure linear crosshead travel. This results in accurate crosshead alignment thus reducing variability in measurement data and producing better overall accuracy
- Pre-loaded ball screws and heavy duty bearings assure long life with zero backlash as well as linear low force and through zero performance. The result is accurate and repeatable measurements that truly represent the specimen characteristics rather than load frame deficiencies

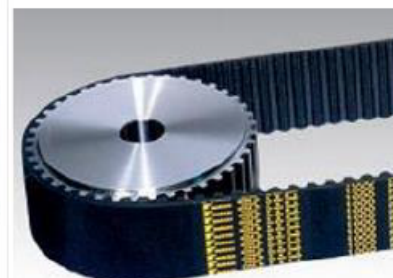


- Fully-protected lead screw covers provide longer life and greater operator protection
- Easy-to-clean aluminum column covers with chamfered corners to facilitate access to the test area. T-slots are built in for simple, convenient attachment and positioning of testing accessories



#### Driving System:

- Japanese YASAKAWA AC servo motor and arc shape silent synchronous belt features high speed, low vibration, world class, and maintenance free





### Load Cell:

- High precision USA made Interface load cell offers high stiffness, high stability, and high linearity
- Over load protection, lateral loading protection
- Bi direction allows tension and compression test
- Self-recognition (TEDS) function
- Regular self-calibration
- Working temperature: 55°C-90°C



### Controller:

NextGen's 500 digital controller offers high speed and closed loop control of load, displacement and extension.

- Four layer PCB layout, anti resistance, high reliability
- Connector with locking function, built for strength and durability, the interface layout is neat and reasonable, easy to plug and unplug
- 6 channel 24 bit AD measurement channel
- Up to 1200Hz sampling frequency
- Up to 1200Hz closed loop control frequency
- 20 bit resolution digital input
- 3 channel high speed digital acquisition, which is used to collect orthogonal pulse signals such as photoelectric encoder and grating ruler, with the highest signal acquisition frequency up to 4MHZ
- Ethernet/USB interface mode is supported, and the transmission rate is greatly increased to support higher sampling frequency. Ethernet interface adopts special high performance Ethernet interface chip and hardware logic gate circuit to realize complex TCP/IP protocol cluster, which has significant advantages such as high reliability and good security
- TEDS function: transducer self-identification system, interface features can be set online by software, system structure is more reasonable
- It has three closed loop (force, extension and displacement) control functions, realizing all digital three closed loop control of force, extension and displacement. Each control loop can automatically switch between different control rings, and realize smooth transition when switching between different modes
- Perfect limit protection, overload protection, emergency stop and other safety protection functions.



### Remote Control with Display

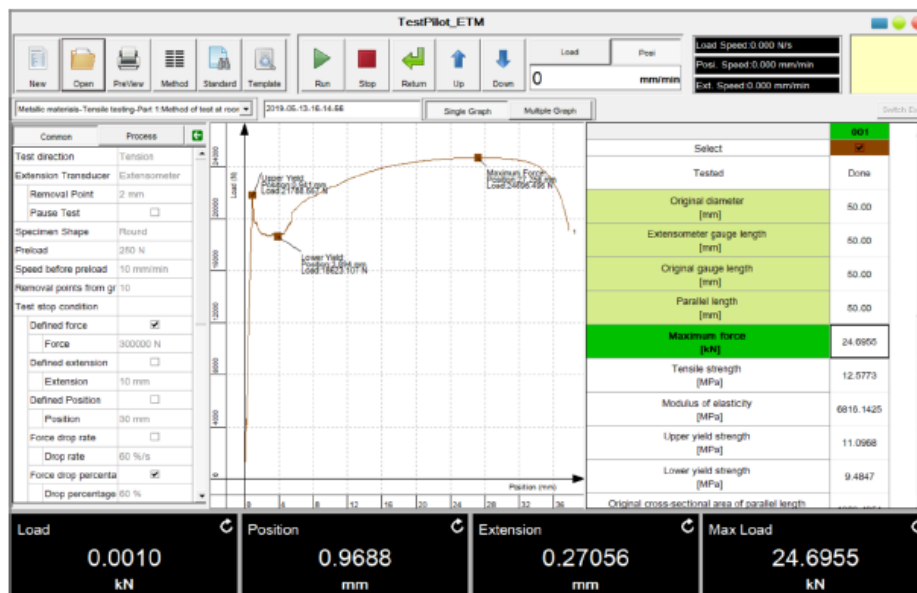
- Ergonomically designed and easy to operate
- Fine tuning knob
- Test start and stop operation
- Crosshead moving up, down, jog up, jog down
- Display of measurement channel: force, displacement, extension and etc.
- Test status display



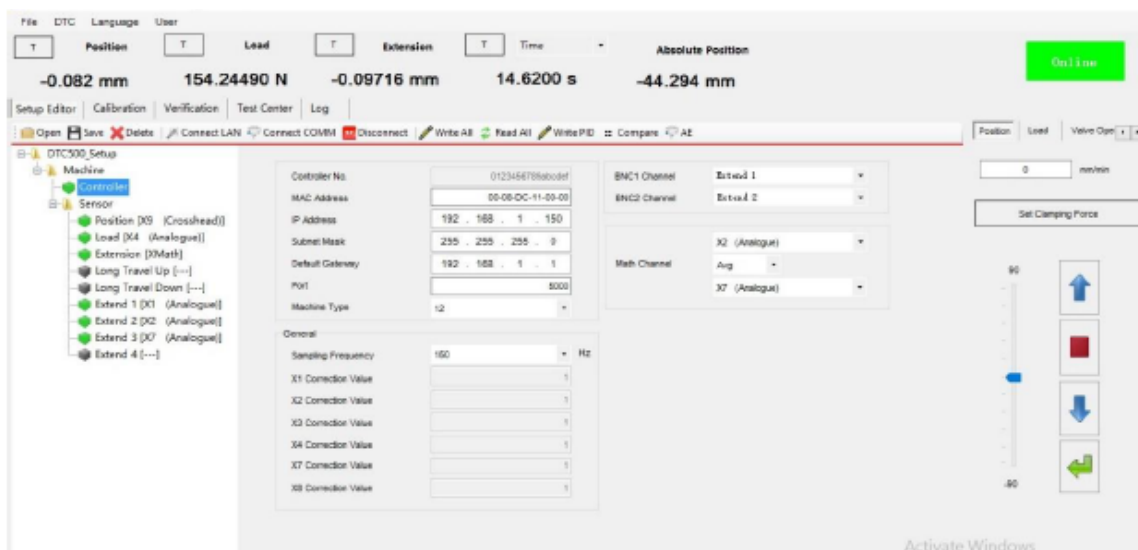


### Software

- Professional test software and controller software are running independently. Controller software can define transducer information such as connector number definition and calibration data, also calibration is processed in controller software
- Compatible with Windows 7 to latest version, 32bit and 64bit
- User authorization management is easily to define software access for different level of operators, like lab manager, operator and others
- Real time display of transducer value, such as crosshead, load cell, and extensometer
- Multiple graph display, and Real time plot and switch graph of force, position, extensometer, stress, strain, time, etc.
- Pre packaged test methods to help you quickly and efficiently meet the requirements of global test standards such as ASTM, ISO, DIN, EN, BS, and more
- Intuitive expression for easy programming of testing standards and testing process
- Testing report can be customized according to the requirement
- Analysis can give typical test results like Young's modulus, Proof stress, Yield stress, stress, strain, Tensile strength, Elongation at break, compressive strength, bending strength, etc....
- Specimen protection function



Test software

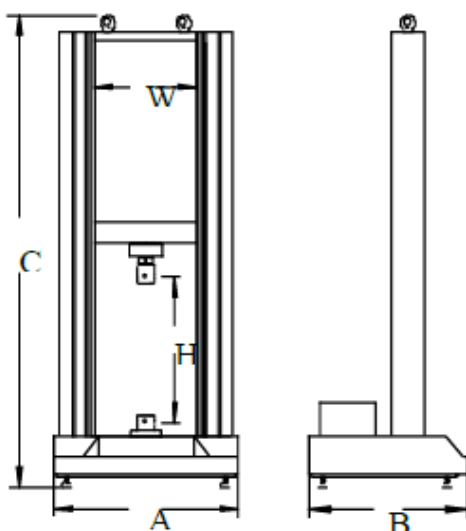




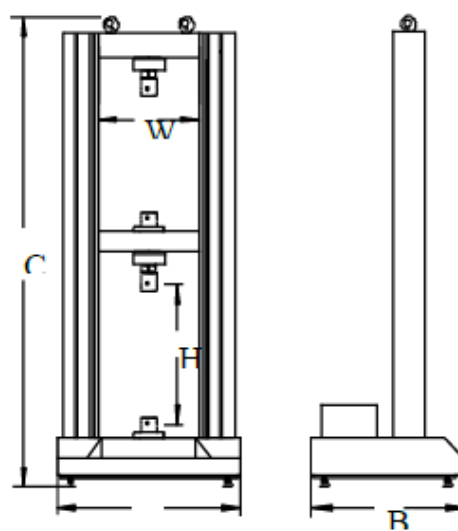
### Full Scope of Test Accessories

Extensive range of accessories to meet test requirements in almost any application or industry: plastics, metals, biomedical, composites, elastomers, components, automotive, aerospace, textiles, and more.

- Tension grip
- Peel/tear fixture
- Compression fixture
- Flexure fixture
- Film COF test fixture
- S type load cells: 10N~5kN
- Long travel extensometer
- Clip-on extensometer
- Environmental chamber
- T-slot table
- Others



Single Test Space



Dual Test Space

Machine Dimensions				
Test Space	Frame Type	Width x Depth x Height A x B x C (cm)	Crosshead travel H (cm)	Test width W (cm)
Single	Standard	77.5x66x174	110	42
Single	300mm Extended	77.5x66x204	140	42
Double	Standard	77.5x66x180	100	42
Double	300mm Extended	77.5x66x210	130	42

### Adapter

- 20kN, 30kN:  $\Phi 20\text{mm}$
- 50kN:  $\Phi 40\text{mm}$



**Pin**

- 20kN, 30kN:  $\Phi$ 10mm
- 50kN:  $\Phi$ 18mm

NG-EML Class C	
<b>Model</b>	EML203, EML303, EML503
<b>Class</b>	Class C
<b>Capacity</b>	20kN,30kN,50kN
<b>Calibration standard</b>	ISO 7500, Class 1 / Class 0.5
<b>Force range</b>	0.2% - 100%FS / 0.4 - 100%FS
<b>Force accuracy</b>	$\pm$ 1.0% / $\pm$ 0.5% of reading
<b>Force resolution</b>	1/500,000 FS
<b>Position accuracy</b>	$\pm$ 0.50% of reading
<b>Position resolution</b>	0.06 $\mu$ m
<b>Crosshead speed</b>	0.001 - 500mm/min
<b>Crosshead speed accuracy</b>	within $\pm$ 1.0% / $\pm$ 0.5% of set speed
<b>Crosshead travel</b>	115cm (Can be extended to 145cm)
<b>Test width</b>	16.5-inch / 42cm
<b>Dimension (Width x Depth x Height)</b>	77.5 x 66 x 173(cm) – Single Test Space 77.5 x 66 x 180(cm) – Dual Test Space  30.5 x 26 x 68-inches – Single Test Space 30.5 x 26 x 70.80-inches – Dual Test Space
<b>Power requirements</b>	AC220V $\pm$ 10%, 50/60Hz, 850W
<b>Weight</b>	880 lbs / 400 kg