

## Extended height, dual test zone Electromechanical Material Testing Frame

### Test Type

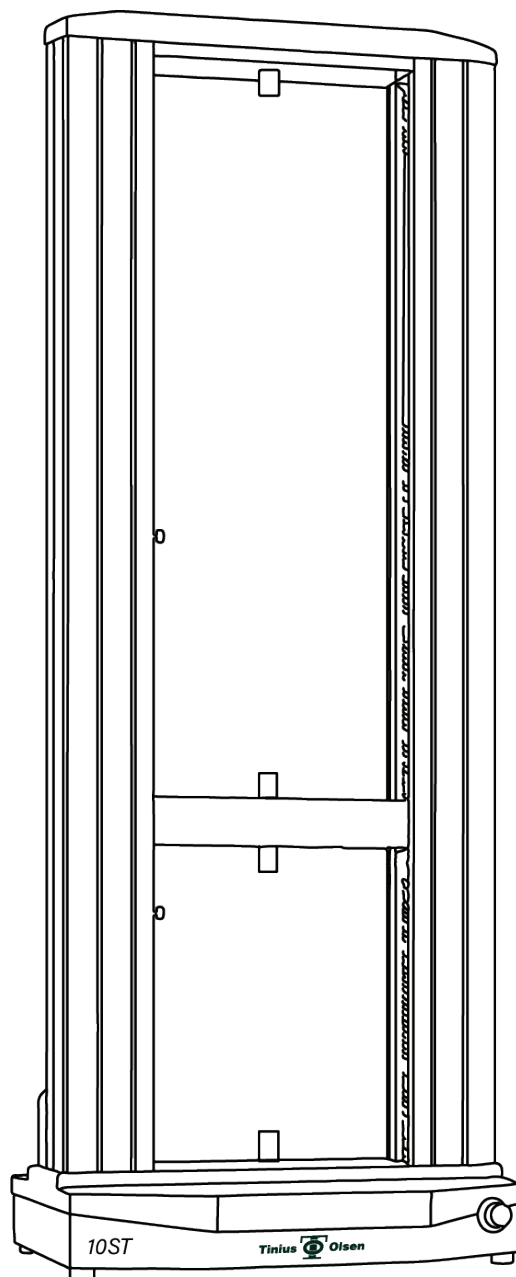
Tension, Compression, Flex,  
Peel, Shear and more..

### Interfaces

Horizon software,HMC, VMC,  
Proterm

### Applications

Where a client routinely needs  
tensile tests and only very  
occasionally a flex test or  
second low force tensile test  
and cannot justify a second  
machine/frame and does not  
want to exchange the grip  
tooling in the single zone



- + Extended crosshead travel (1490mm), two test zones above and below crosshead
- + Suitable for tension, compression, flexure, shear and other tests to a maximum force of 5kN/1,000lbf. (10kN available on request)
- + Meets or exceeds the requirements of national and international standard for materials testing systems.
- + Bluetooth-enabled handheld interface allows maximum flexibility when paired to a testing frame.
- + 8 full-length T-slots built into the columns to allow accessories to be securely mounted to the test frame.
- + Built-in pneumatic distribution ports provide local air supply to pneumatic grips.

# Model 10ST Extended Height with Dual Test Zone

The 10ST extended model with dual test zone designed for tension, compression, flexure and shear strength testing on materials and assemblies. The frame has extended height by 400mm as compared to standard model. The robust design that incorporates quality materials and components ensures that our reputation for superior system performance, ease of use, and longevity is maintained. A variety of loadcells are available at differing capacities that give precise applied load measurements from the smallest test specimen to ones that go to full machine capacity. Test machines become complete, powerful test systems with the addition of grips to hold the specimen, strain measurement instrumentation and Tinius Olsen's Horizon Data Analysis software.

## Interface Options

### HMC3.0

Wireless handheld interface that is connected to the frame via Bluetooth. The interface features an Android-based operating platform and can be used to control the machine by itself or in conjunction with Tinius Olsen's Horizon software.

### Proterm

Familiar handheld interface that is tethered to the machine. With its larger, tactile, sealed keypad, this interface is ideal for operators who use gloves to load and unload specimens and prefer a push button keypad. It requires virtual machine control software running on a connected PC to operate the basic machine functions and report basic numerical test data.



## Options and Accessories

- + Grips and fixtures can be easily mounted securely with a simple locking pin, which also allows simple and rapid changes.
- + Full range of precision extensometers and deflectometers are available using optical, video, laser, encoder, strain gage and/or LVDT technologies.
- + Furnaces and environmental chambers can be installed for tests at high or low temperatures.
- + Safety enclosures with interlocks can be installed to protect operators from violent specimen breaks.
- + Tinius Olsen's Horizon software can be connected to the frame by the operator.

## TO order numbers

99-991-1010/2N

Materials Testing Machine, Ext. Model 10ST +400mm, Twin Column, Top Mount, 5kN

99-991-9000/03

HMC 3.0 Wireless Handheld Sys. w/Locking dock and arm assembly; Fit ST Series

03070246

Handheld Terminal for Mech. Sys. w/ Display, Keypad, Interface, Black Case; 1114

# Specifications

<b>Frame capacity</b>	5/10kN / 500/1,000kgf / 1,000/2,000lbf	
<b>Proof tested</b>	50% over frame capacity	
<b>Mounting</b>	Table mounting	
<b>Test zone</b>	Two	
<b>Number of columns</b>	Two	
<b>Column</b>	<b>Material</b>	Aluminium extrusion
	<b>Finish</b>	Anodized
	<b>Color</b>	Natural
<b>Base</b>	<b>Material</b>	Mild Steel
	<b>Finish</b>	Pre-primed, top powder coat paint
	<b>Color</b>	TO Cool Grey Web # E63027
<b>Crosshead</b>	<b>Material</b>	Mild Steel Solid
	<b>Finish</b>	Pre-primed, top powder coat paint
	<b>Color</b>	TO Green Web # 004C45
<b>Base Cover</b>	<b>Material</b>	ABS recyclable
	<b>Color</b>	Cal Black Web # 111820
<b>Distance Between Columns</b>	mm	410
	in	16
<b>Max. Crosshead travel</b>	mm	1490
	in	59
<b>Stiffness</b>	kN/mm	100
	kLbf/in	571
<b>Height</b>	mm	2025
	in	80
<b>Width</b>	mm	729
	in	29
<b>Depth</b>	mm	506
	in	20
<b>Weight</b>	kg	139
	lbs	306
<b>Force protection system</b>	Yes, digital	

# Specifications

<b>Displacement protection system</b>	Yes, mechanical and user programmable
<b>Accessory fitting interface type</b>	Female diameter
<b>Ball screw type</b>	High precision low backlash
<b>Ball screw cover/ protection</b>	Yes
<b>Crosshead drive</b>	DC servo motor
<b>Feet material</b>	Non-adjustable impact resistance plastic
<b>Pneumatic air distribution</b>	4mm OD hose with pushfit coupling, rated to 100psi maximum
<b>Reference rule to support crosshead positioning</b>	Yes, mm and inches
<b>T slots in columns for accessory mounting</b>	8 x M6/M8
<b>Noise at full crosshead speed 2m radius</b>	22db

## Controller Specifications

<b>Max data processing rate</b>	168MHz	
<b>Data acquisition rate at PC</b>	1000Hz	
<b>Number of instrument device connections</b>	<b>Internal</b>	Three
	<b>External</b>	Four
<b>Bluetooth enabled</b>	v4.0 with A2DP, LE, EDR	
<b>External PC connection</b>	USB	
<b>User interface connectivity</b>	TO HMC3.0, Proterm, Horizon	

## Force Measurement

<b>Force measuring device type</b>	Strain gage-based load cell
<b>Load cells available</b>	5N, 10N, 25N, 50N, 100N, 250N, 500N, 1kN, 2.5kN, 5kN, 10kN
<b>Resolution</b>	One part in 8,388,608
<b>Accuracy</b>	0.2% of applied force across load cell force range
<b>Range</b>	0.2-100%
	10N load cell - 0.5-100%
	5N load cell - 1-100%

## Specifications

Calibration standard	± 0.5% to ISO 7500-1, ASTM E4
Internal sampling rate	1000Hz

### Extension Measurement

Resolution	0.1µm
Accuracy	±50µm
Range	0.1µm to 1490mm
Calibration standard	ISO 9513
Internal sampling rate	2.73kHz

### Position Control

Test Speed	mm/min	0.0001-1,000
	in/min	0.000004-40
Resolution	µm	0.1
	in	0.000004
Accuracy	±0.05% of indicated speed	
Return speed post test	mm/min	0.0001-1,000
	in/min	0.000004-40

## Specifications

Crosshead positioning Speed	mm/min	0.0001-1,000
	in/min	0.000004-40
Return to 0 function	Yes	

### Power Requirements

Supply voltage	115/230V
Frequency	50/60Hz
Power	530W ± 10%

### Atmospheric Requirements

Operating temp.	5 to 40°C (41 - 104°F)
Operating humidity	10-80% non-condensing wet bulb method
Storage temp.	-10 to 45°C (14 to 113°F)
Storage humidity	10-80% non-condensing wet bulb method