



Physical Test Solutions

Innovative Solutions in Material Test Equipment

Compuline Series of Universal Testing Machines



Static Universal Testing Machines

Physical Test Solutions (PTS) has one of the most comprehensive ranges of electromechanical universal testing machines. Selecting the right machine for the material testing task may become a challenging endeavor like walking astray in a jungle trying to find your way home. Recognizing the complexity of the decision-making process, at PTS we are attempting to make this process easy and understandable. The first step is to take the initial guesswork away. Many times, quotations are submitted with a long list of “*standard*”, “*recommended*” and then “*optional*” accessories. The only way to decipher the quotations that look like an attorney’s list of terms and conditions is to sit down with a sales engineer that in some instances may take up the valuable time you do not have. But if the application is simple, PTS offers *turn – key solution* packages that include not only the basic accessories to get started right away like load cells, grips and inserts, and then some, like compression plates, and more.

The static series of universal testing machines has a highly extensive line of machines for most applications. The electromechanical universal testing machines feature preloaded precision ball-screws that ensure high speed and position measurement accuracy. The testers also have a micro switch that is mechanically activated for overload protection.

Physical Test Solutions (PTS) universal testing machines are manufactured in an ISO 9001 certified facility, and comply with ASTM A730, ASTM E4, ASTM E83, ISO6892, ISO7438, ISO75000-1 and EN 10002-4.

Compuline Series of Static Universal Testing Machines

PTS introduces the *Compuline Series* of practical and economical line of electromechanical universal testing machines that feature computerized servo control capabilities. In addition to the above mentioned standard equipment, the *Compuline Series* of static universal testing machines also includes the popular user friendly *PTS MaxTest software*. The *Compuline Series* is available in capacities from 1 KN (225 lbs) to 600 KN (135,000 lbs). Models from 300KN and above include pneumatic or hydraulic grips.

All *Compuline Series* of static universal testing machines comply with ASTM A730, ASTM E4, ASTM E83, ISO6892, ISO7438, ISO75000-1 and EN 10002-4.

- ❖ *Compuline XLW (PC)*: Single column LCD Display tester
- ❖ *Compuline SCC series*; Single column testers
- ❖ *Compuline TDC series*; Table model dual column testers
- ❖ *Compuline FMC series*; Floor model medium capacity testers.
- ❖ *Compuline FHC series*; Floor model high-capacity testers
- ❖ *Compuline CMT series*; Floor model testers

Compuline SCC Series

For low capacity applications, the *Compuline series* of static universal testing machines begins with the *Compuline SCC*, single column models. The *Compuline SCC series* constitutes the ideal material testing solution for applications that demand low capacity tests with servo-controlled computer data acquisition capabilities.

The *Compuline SCC* testers include the following standard accessories:

- Load cell
- Wedge grips
- Four sets of inserts
- Flat inserts; 0 - 0.27" (0-7mm) and 0.27" - 0.55" (7-14mm)
- Vee inserts; 0.15" - 0.35" (4-9mm) and 0.35" - 0.55" (9-14mm)
- Compression Plates 4 " diameter (100mm)



Compuline SCC Specifications

Model	TSCC-1	TSCC-2	TSCC-5
Capacity			
KN	1	2	5
LBF	220	441	1125
KGF	100	200	500
Load accuracy	≤ ± 0.5% (down to 1/50 of load cell capacity)		
Deformation accuracy	≤ ± 0.5%		
Displacement Resolution	0.001 mm		
Position accuracy:	± 0.02 mm or 0.1 % of displacement (whichever is greater)		
Position Resolution	0.001mm (0.000 039")		
Test Speed	0.1mm/min – 500mm/min (0.01-1000 optional)		
Speed Accuracy	±0.5% of set speed (zero or constant load)		
Vertical Test Space	800 mm		
Total Crosshead Travel	910 mm		
Column Clearance	N / A		
Load Frame Stiffness	10 KN / mm (2,250 lbs./inch)		
Load Frame Dimensions	900 x 500 x 1600 mm		
Weight	160 Kg.		

Compuline TDC Series

The *Compuline TDC series* features table top dual column load frames with servo control. This series combine's load frame elegance with computer control data acquisition. The *Compuline TDC series* includes the following standard accessories:



- PC Computer
- PTS MaxTest Software
- Load cell
- Wedge grips
- Four sets of inserts:
 - Flat inserts; 0 - 0.27" (0-7 mm) and 0.27" - 0.55", (7-14 mm)
 - Vee inserts; 0.15" - 0.35" (4-9 mm) and 0.35" - 0.55", (9-14 mm)
 - Compression Plates 4" dia. (100mm)

Note 1: TDCC-50 also includes 14 – 21 mm flat inserts and 14 – 20 mm Vee inserts.

Note 2: 20KN machines and below do not include computer or software.

Compuline TDC Specifications

Model	TDCC-5	TDCC-10	TDCC-20	TDCC-30	TDCC-50
Capacity					
KN	5	10	20	30	50
LBF	1,125	2,250	4,500	6,750	11,250
KGF	510	1,020	2,040	3,060	5,100
Load accuracy	≤ ± 0.5%				
Deformation accuracy	≤ ± 0.5%				
Displacement Resolution	0.001mm (0.000 039")				
Test Speed	0.005 mm/min — 500 mm/min (0.01-1000 optional)				
Speed Accuracy	±0.5% of set speed (zero or constant load)				
Vertical Test Space	971 mm (42")		1000 mm (39")		
Total Crosshead Travel	1075 mm (77")		1100 mm (43")		
Maximum Tensile Space	750 mm (29")		640 mm (25")		
Clearance b/ Columns	420 mm (16")		500 mm (19")		
Compression Space	750 mm (29")		950 mm (37")		
Load Frame Stiffness	30 KN / mm (171 KLBF/in)		50 KN/mm (285 KLBF/in)		
Load Frame Dimensions					
Height	1737 mm (68")		1944 mm		(76")
Width	780 mm (30")		840 mm		(33")
Depth	500 mm (19.7")		630 mm		(24")
Weight	170 Kg. (374 lb.)		230 Kg. (507 lb.)		

Compuline FMC Series

The *Compuline FMC series* is a medium capacity floor model computer controlled universal testing machine that affords added test space and versatility in material testing applications. The *Compuline* floor model universal testing machines feature a convenient design of *dual test cavities*. This design allows the operator to perform tension tests in one cavity and then compression tests in another without the hassle of taking off the grips to place the compression plates on the load frame. *FMC series* is available in four capacities; 50 KN (11,250 lbf.), and 100 KN (22,500 lbf.), 200KN (45,000 lbf.) and 300 KN (67,500 lbf.).

Standard accessories for the *Compuline FMC*

- PC Computer
- PTS MaxTest Software
- Load cell
- Wedge grips
- Six sets of inserts:
 - Flat inserts; - 0.27" (0-7 mm), 0.27" - 0.55" (7-14 mm)
 - and 0.55" – 0.83" (14 – 21mm)
 - Vee inserts; 0.15" - 0.35" (4-9 mm), 0.35" - 0.55" (9-14 mm) and 0.55" – 0.78" (14 – 20 mm)
 - Compression Plates 4 " dia. (100mm)



Compuline FHC Series

The *Compuline FHC series* is available in capacities of 500 KN (121,500 lbf.) and 600 KN (135,000 lbf.).

Standard accessories for model *Compuline FHC series*



- PC Computer
- PTS MaxTest Software
- Load cell
- Hydraulic or pneumatic grips
- Four sets of inserts:
 - Flat inserts; 0 - 0.6" (0-15 mm), 0.6" – 1.2" (15-30 mm)
 - Vee inserts; 0.5" – 1.1" (12- 26 mm), 1.1" – 1.6" (26 – 40 mm)
 - Compression Plates 6 " dia. (150 mm)

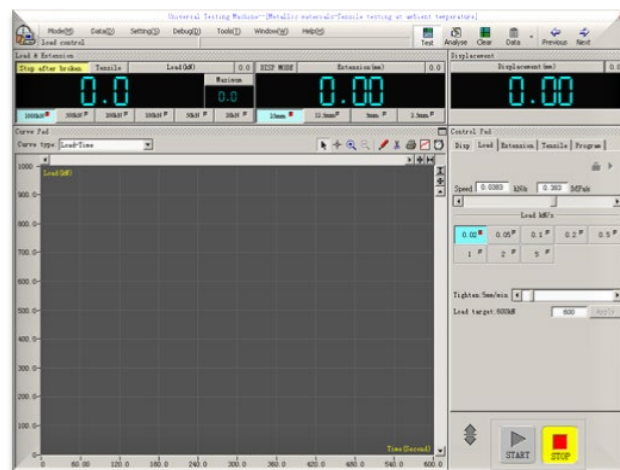
Floor Model Specifications

Model	FMCC-100	FMCC-200	FMCC-300	FHCC-500	FHCC-600
Capacity					
KN	100	200	300	500	600
LBF	22,500	45,000	67,500	112,500	135,000
KGF	10,200	20,400	30,600	51,000	61,200
Load accuracy	$\leq \pm 0.5\%$				
Deformation accuracy	$\leq \pm 0.5\%$				
Displacement Res				0.001 mm	
Test Speed	0.005 - 500 mm/min (0.01-1000 optional)		0.0025 mm/min-250 mm/min (0.005 mm/min -500 mm/min optional)		
Speed Accuracy	$\pm 0.5\%$ of set speed (zero or constant load)				
Vertical Test Space	1450 mm (57")		1500 mm (59")		
Total Crosshead Travel	1350 mm (53")		1400 mm (55")		
Max Tensile Space	650 mm (25")		500 mm (19")		
Clearance b/ Columns	570 mm (22")		590 mm (23")		650 mm (25")
Compression Space	1050 mm (41")				
Load Frame Stiffness	150 KN/mm (855 KLBF/in)		450 KN / mm (2,565 KLBF/in)		650 KN / mm (3,705 KLBF/in)
Load Frame Dimensions					
Height	2065 mm (104")		2390 mm (94")		2560 mm (100")
Width	970 mm (44")		1100 mm (47")		1210 mm (47")
Depth	630 mm (24")		730 mm (28")		880 mm (34")
Weight	700 Kg. (1,543 lb)		1,300 Kg. (2,866 lb)		1,650 Kg. (3,637 LB.)

PTS MaxTest Software

The **PTS MaxTest Software** operates in a windows environment and combines a user-friendly working operation with powerful data acquisition and control capabilities. The **PTS MaxTest Software** has the following outstanding features:

- Full digital control
- Individual or Batch Testing Capabilities
- Test Curve Analysis
- Convenient and Practical Parameter Settings
- Multilevel Security Management
- Automatic Program Control
- Versatile Test Report Generation
- Practical Database Management



Grips, fixtures and chambers

To complement the **PTS** powerful lineup of electromechanical testing machines, **PTS** has all of the necessary accessories to perform a wide variety of tests in materials and components. Those accessories include grips, fixtures, extensometers, environmental chambers and high temperature furnaces. Literature describing all of those items is available separately.



Hydraulic Grips



High Elongation Extensometer



Video Extensometer



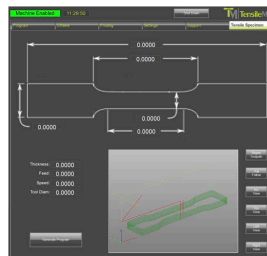
Environmental Chamber

Sample Preparation Equipment

The test sample is a precise part. A test specimen is the most important component of tensile testing, for it determines the actual physical properties of the metal or plastic being tested. The physical test specimen must conform to exacting dimensions down to thousands of an inch in every dimension and must be free of induced cold working or heat distortion.

At **PTS** we have sample preparation equipment for tensile tests of metal and plastic samples in compliance with ASTM, ISO and most international standards.

Sample preparation equipment is available for flat or round samples in manual or CNC versions.



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