



# Physical Test Solutions

Innovative Solutions in Material Test Equipment

## Digiline Series of Universal Testing Machines



DIGILINE  
DIGILINE



# PTS Electromechanical Universal Testing Machines

Physical Test Solutions 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, flex fixtures 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.

## *Digiline* Series of Universal Testing Machines

**PTS** introduces the *Digiline Series* of practical and economical line of electromechanical universal testing machines that feature digital display for easy-to-use testing solutions. The *Digiline series* is available in capacities from 1 KN (225 lbs) to 600 KN (135,000 lbs). *Digiline* models provide versatility in material testing and come in a variety of designs according to the testing capacity.

Consistent with the turn-key concept, **PTS** facilitates the task of purchasing universal testing machines with the package solutions. The *Digiline series* of electromechanical universal testing machines features precision ball-screw mechanics and has the following product categories:

- ❖ *Digiline* SCD series; Single column digital testers
- ❖ *Digiline* TDD series; Table model dual column digital testers
- ❖ *Digiline* FMD series; Floor model medium capacity digital testers.
- ❖ *Digiline* FHD series; Floor model high capacity digital testers
- ❖ *Digiline* FVD series, Floor model very high capacity digital testers



Digital Remote Control

## Digiline SCD Series

The extensive selection of *Digiline* universal testing machines begins with the *Digiline SCD*, series of single column models. The *Digiline SCD series* constitutes the ideal material testing solution for applications that demand low capacity tests with simple operation and practical digital readout solutions.

The *Digiline SCD* testers include the following standard accessories:

- ✓ Remote Digital Display with the following functions
  - Test load in real time
  - Peak Value
  - Position Speed
- ✓ 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)
- ✓ Flex fixture length 11" (280mm), nose diameter; 0.4" (10mm)



### Digiline SCD Specifications

Model	TSCD-1	TSCD-2.5	TSCD-5
Capacity			
KN	1	2.5	5
LBF	225	562	1125
KGF	102	255	510
Load accuracy	$\leq \pm 0.5\%$		
Deformation accuracy	$\leq \pm 0.5\%$		
Displacement Resolution	0.01 mm		
Test Speed	0.005 mm/min — 500 mm/min		
Vertical Test Space	560 mm		
Total Crosshead Travel	750 mm		
Column clearance	N / A		
Load Frame Stiffness	400 KN / mm (2,000,000 lbs./inch)		
Load Frame Dimensions	550 X 386 X 1436 mm		
Weight	119 Kg.		

## *Digiline TDD Series*

The *Digiline TDD series* features table top dual column load frames with digital readout. This series combines load frame elegance with cost effective testing for table top digital readout solutions.

The *Digiline TDD series* includes the following standard accessories:

- ✓ Digital Display with the following functions:
  - Test load in real time.
  - Peak Value
  - Position
  - Speed
- ✓ 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)
- ✓ Flexure fixture: length 11" (280 mm), nose diameter, 0.4" (10 mm)

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



## *Digiline SC Specifications*

Model	TDCD-5	TDCD-10	TDCD-20	TDCD-50
<b>Capacity</b>				
<b>KN</b>	5	10	20	50
<b>LBF</b>	1,125	2,250	4,500	11,250
<b>KGF</b>	510	1,020	2,040	5100
<b>Load accuracy</b>	$\leq \pm 0.5\%$			
<b>Deformation accuracy</b>	$\leq \pm 0.5\%$			
<b>Displacement Resolution</b>	0.01 mm			
<b>Test Speed</b>	0.005 mm/min — 500 mm/min			
<b>Vertical Test Space</b>	700 mm			
<b>Total Crosshead Travel</b>	1100 mm (43")			1200 mm
<b>Clearance between Columns</b>	420 mm (17")			570 mm
<b>Load Frame Stiffness</b>	400 KN / mm (2,0000,000 lbs./inch)			
<b>Load Frame Dimensions</b>				
<b>Height</b>	1747 mm			2000 mm
<b>Width</b>	780 mm			930 mm
<b>Depth</b>	577 mm			680 mm
<b>Weight</b>	165 Kg			550 Kg.

## Digiline FMD Series

The *Digiline FMD series* is a medium capacity attractively designed floor model universal testing machine that affords added test space and versatility in material testing applications. The *Digiline FMD series* is available in two capacities; 50 KN (11,250 lbf.) and 100 KN (22,500 lbf.).



### Standard accessories for *Digiline FMD*

- ✓ Digital Display with the following functions:
  - Test load in real time.
  - Peak Value
  - Position
  - Speed
- ✓ Load cell
- ✓ Wedge grips
- ✓ Six sets of inserts:
  - Flat inserts; 0 - 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)
- ✓ Flexure fixture: length 11" (280 mm), nose diameter, 0.4" (10 mm)

## Digiline FHD Series

The *Digiline FHD series* is a high capacity floor model universal testing machines has an added convenience, *dual test cavities*. This design allows the operator to perform tension and then compression tests without the hassle of taking off the grips to place the compression plates on the load frame. The *Digiline FHD series* is available in capacities of 200 KN (45,000 lbf) and 300 KN (67,500 lbf).

### Standard accessories for model *Digiline FHD*

- ✓ Digital Display with the following functions:
  - Test load in real time.
  - Peak Value
  - Position
  - Speed
- ✓ Load cell
- ✓ Wedge grips
- ✓ Six sets of inserts:
  - Flat inserts; 0 - 0.27" (0-7 mm), 0.27" - 0.55" (7-14 mm) and 0.55" - 0.83" (14 - 21mm)
  - Vee inserts; 0.35" - 0.55" (9 - 14 mm), 0.55" - 0.78" (14 - 20 mm) and 0.78" - 1.01" (20 - 26 mm)
- ✓ Compression Plates 4 " dia. (100mm)
- ✓ Flexure fixture: length 11" (280 mm), nose diameter, 0.4" (10 mm)



**Note: 300 KN unit includes Hydraulic grips as standard equipment.**

## *Digiline FVD Series*

The *Digiline FVD series* is a very high capacity floor model universal testing machine that features hydraulic grips as standard equipment with all machines. Like *Digiline FHD series* the *Digiline FVD series* also has the added convenience of *dual test cavities*. The *Digiline FVD series* is available in capacities of 500 KN (121,500 lbf.) and 600 KN (135,000 lbf.).

Standard accessories for model *Digiline FVD*

- ✓ Digital Display with the following functions:
  - Test load in real time.
  - Peak Value
  - Position
  - Speed
- ✓ Load cell
- ✓ Hydraulic 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)
- Flexure fixture: length 20" (500 mm), nose diameter, 1.2" (30 mm)



Model	FMCD-50	FMCD-100	FHCD-200	FHCD-300	FVHD-500	FVHD-600
<b>Capacity</b>						
<b>KN</b>	50	100	200	300	500	600
<b>LBF</b>	11,250	22,500	45,000	67,500	112,500	135,000
<b>KGF</b>	5,100	10,200	20,400	30,600	51,000	61,200
<b>Load accuracy</b>	$\leq \pm 0.5\%$					
<b>Deformation accuracy</b>	$\leq \pm 0.5\%$					
<b>Displacement Resolution</b>	0.01 mm					
<b>Test Speed</b>	0.005 mm/min — 500 mm/min				0.005 mm/min-250 mm/min	
<b>Vertical Test Space</b>	500 mm (20")		500 mm (20")		800 mm (31")	
<b>Total Crosshead Travel</b>	1350 mm (53")		1350 mm (53")		1550 mm (61")	
<b>Columns clearance</b>	575 mm (22")		575 mm (22")		575 mm (22")	
<b>Load Frame Stiffness</b>	300 KN /mm		(1,500,000 lbs./inch)			
<b>Load Frame Dimensions</b>						
<b>Height</b>	2115 mm (83 ")		2614 mm (102")		3168 mm (125")	
<b>Width</b>	1022 mm ( 40")		1110 mm (43")		1250 mm (49")	
<b>Depth</b>	700 mm (27")		785 mm (31")		972 mm (38")	
<b>Weight</b>	1,000 Kg. ( 2,2,04 lb)		2,100 Kg. (5,600 lb)		2,800 Kg. (6,200 lb)	

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