

Composite material testing machine



Application

The testing system was specially developed to test high-strength composites up to 300 kN at ambient temperature or in a temperature range of -60 °C to +350 °C.

A composite material is a material consisting of two or more combined materials that exhibits other material properties than the individual components. Depending on the fiber structure of the composites, different methods of tensile, compression, flexure and shear tests are used. This allows testers to determine the mechanical properties of a material for any type of load application and according to standard.

A modular connection system provides the ability to use the full range of HST GROUP accessories to perform a wide variety of tests. Test fixtures, tools and sensors are available to fulfill the full range of accessory requirements, enabling at least 21 different types of tests and covering more than 115 standards. In addition to

the usual tensile tests, these include FHT, OHT, end-loading compression tests, FHC, OHC, CAI, overlapping shear, Iosipescu shear, V-notch shear, in-plane shear tests (IPS), SBS and ILSS, 3- and 4-point flexure tests and fracture mechanics investigations.

Standards:

ASTM D3379, ASTM D638, ASTM D695, ASTM D5379, D3039, ASTM D3410 (IITRI), D6641, D4255, D7078, D3518, D2344, ASTM D7264, ASTM C393, ASTM C297, ASTM C365, ASTM 1.008, ISO 14126-B2, ASTM D6641, ASTM 1.007, ISO 527-4, ASTM D3039, ASTM D7137

Specifications

MODEL	HSTWDW-100E	HSTWDW-200E	HSTWDW-300E
Load Capacity	100KN	200KN	300KN
	- Meets ASTM E-4		
Testing Load Accuracy	$\pm 0.5\%$		
Testing Load Range	0.4%-100% FS		
Load Resolution	1/500,000FS		
Deformation measuring range	0.2%—100%FS		
Deformation accuracy	$\leq \pm 0.5\%$		
Deformation adjustment range	0.02~100%FS		
Displacement resolution	0.04 μ m		
Deformation resolution	1/ ± 500000 FS of the max deformation		
Deformation accuracy	Within $\pm 0.5\%$ of the value		
Crosshead speed range (mm/min)	0.001-500mm/min		
Crosshead speed accuracy	$\pm 0.5\%$ of set speed		
Constant force, constant deformation, constant displacement control range	0.5%--100%FS		
Constant force, constant deformation, constant displacement control accuracy	When the set value is $< 10\%$ FS, it is within $\pm 1\%$ of the set value; When the set value is $\geq 10\%$ FS, it is within $\pm 0.1\%$ of the set value		

Testing space (Crosshead Travel)	1100mm
Max. Tensile Testing Space	630mm
Max. Compression Testing Space	630mm
Test width	600mm
Compression Platen	Φ100mm
Load Cell	High-precision USA load cell
Motor	Taiwan DELTA Ac servo speed control system
Reducer gear	Japan BEITTO
Position limit switch	Upper and lower lights
Power Supply	AC380V±10%, 50Hz/60Hz
Overall Dimensions (L*W*H)	1108x798x2430mm
Weight	about 1800kg

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