



BANBROS ENGINEERING PVT. LTD.

The Precision Measurement People

COMPUTERIZED UNIVERSAL TESTING MACHINE WITH SINGLE COLUMN

- *VALUE*
- *VERSATILITY*
- *PERFORMANCE*



BWDW-SERIES



DESCRIPTION:

Single Column Tabletop universal testing systems can be used over a range of force applications up to 5 kN (500 kg). A variety of load cells are available to provide accurate measurements for applications ranging from micron-size fibers to those utilizing the full capacity of the load frame. Additionally, a full range of grips, fixtures, and strain measurement devices are also available.

Load weighing system meets or exceeds the requirements of the following standards: ASTM E4, EN10002-2, BS 1610, DIN 51221, ISO 7500-1.

APPLICATION:

Widely used for industrial application, factory quality control, science and research institute, QC & QA college student training, education institute, testing and inspection center, laboratories, construction company, aerospace, mechanical production, electric appliance fields.

Comply with different standards such as ASTM D638, ASTM D695, ASTM D790, ASTM D412, 624, ASTM D882, ISO 527, ISO 37, ISO 604, ISO 178 and other equivalent BS, ASTM, JIS standard.

FEATURES:

LOAD FRAME AND DRIVEN TYPE

- Compact construction, beautiful appearance load frame
- Frame are proof loaded to 200% of capacity, with concentric arrangement of the drive lead screw and crosshead guide which assure high accuracy and strong reliability.

Leading Screw



AC Servo Motor



- Top and middle crosshead processed through shot blasting & nickel coating technology, good looking, no corrosion and no need lubrication oil maintenance.
- Adopt Japan Panasonic/FUJI AC servomotor and driving system, ensure transmission and moment of force stable.
- Adopt Circular Arc Profile Synchronous Belt Transmission, eliminate dual direction clearance, prolongs the life of synchronous belt.
- Multiple load cell in one machine available.
- Advanced USA Vishay celtron load cell ensure the force measuring accuracy and repeatability, Overload capacity 150%.
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- Compatibility concept for continuous component expansion



GRIP AND TEST FIXTURE

- Manual, hydraulic, pneumatic tensile test fixture available.
- Removable grip-jaws can be changed rapidly to meet variable wider applications in tension test.
- Versatile test fixture like peeling, shear, bending, flexure, tear, burst, puncture, compression test for kinds of material.



SECURITY FUNCTION

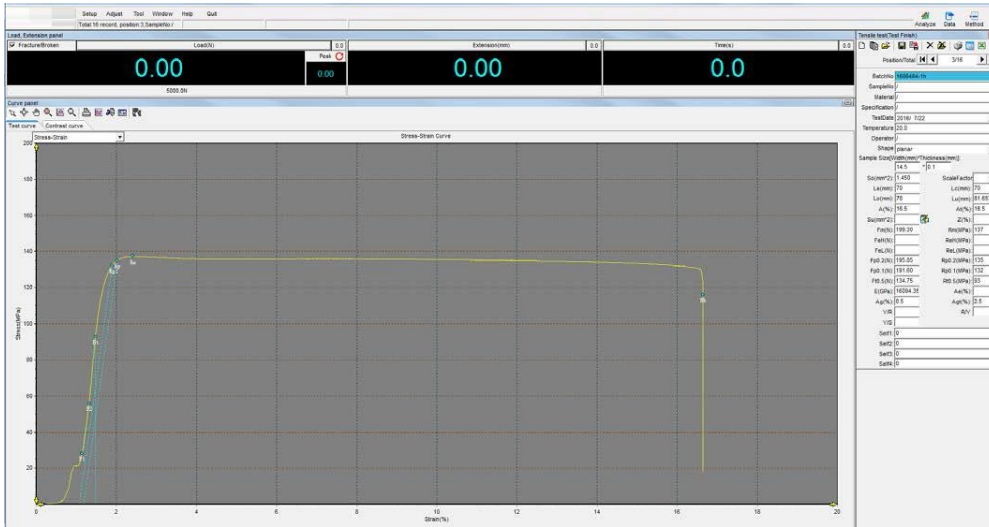
- Sensor of position limitation switch.
- Emergency stop switch.
- Hardware driving system overload protection, over voltage, current protection.
- Software over load protection.

CONTROL SYSTEM, SOFTWARE

- Based on full digital STC8800 measuring and control card; Data collection system use 4 channel of high accuracy 24 digit A/D converter.
- Real time load, deformation, crosshead displacement, test process four kind close loop control.
- Resolution can up to 1/500000, full range without step.
- Level authorization management function: to improve software and data security, can set different password to realize several class authorization management. Different user with different right to operate the machine, avoiding unexpected mistake because human error.
- PC control system, with advantage of high integration, reliable performance, easy adjustment etc. can real time collect test data, on-time display test curve, test data file can be saved as ACCESS and SQL server, convenient for customer's data resource storage.
- Automatically generate the testing report; the testing report can be displayed and printed, also it can be export in Excel/Access Format. Also, the user can edit the report format as requirement in report template.
- Result recall function: after the test and saved, customer can open the test data and re-analysis at any time.
- Results compare: observe several curve at same time, can fold curve or portion enlarge to analyze and compare sample characters.
- Load~Time, Load~displacement, Displacement~time etc. curve smoothly switch, display test data, save, analysis and print.

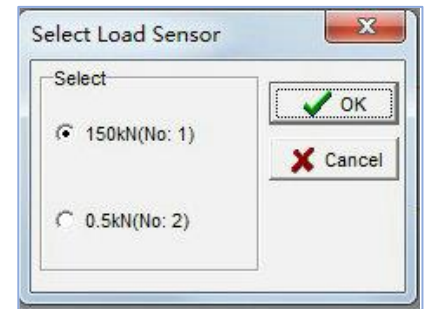


POWERFUL FUNCTION SOFTWARE:



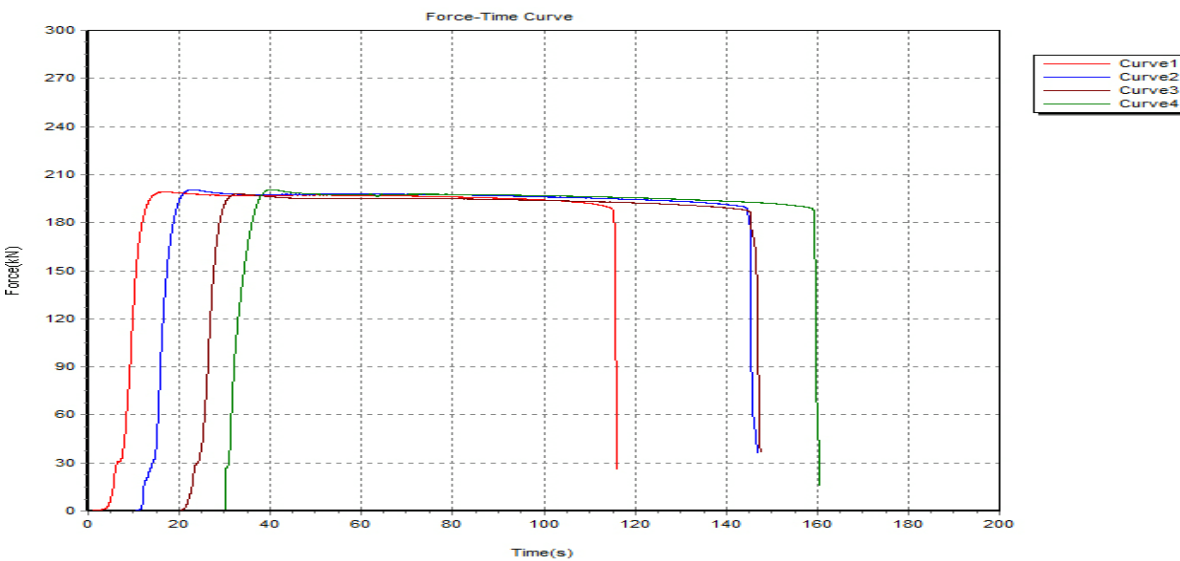
MAIN INTERFACE FOR TEST AND RESULT DISPLAY:

PEEL TEST SAMPLE NUMBER	PEEL SAMPLE FITTING GAP (mm)	PEEL TEST MAXIMUM FORCE (kN)	PEEL TEST SAMPLE THICKNESS (mm)	PEEL TEST SAMPLE WIDTH (mm)	PEEL TEST SAMPLE SEPERATION AREA (see notes)	PEEL TEST SAMPLE FAILURE LOCATION (see notes)	PERCENTAGE DECOHESION IN FUSION ZONE
SAMPLE 1-1	1.5	3.84	32	26	1	1	34%
SAMPLE 2- 1-1	0.8	4.54	32	26	1	2	0%
SAMPLE 3-2	1.2	3.47	32	26	3	1	29%
SAMPLE 4-2-1	2.5	4.65	32	26	3	1	100%
SAMPLE 5-3	0	3.69	32	26	1	3	0%
SAMPLE 6-3-1	1.8	4.37	32	26	1	1	27%
SAMPLE 7-4	1.5	2.91	32	26	3	1	100%
SAMPLE 8-4-1	1	3.96	32	26	3	1	100%



Multiple load cells

TEST REPORT/BATCH TEST REPORT/ CURVE SUPERPOSITION FOR COMPARISON



**MAIN TECHNICAL SPECIFICATION:**

Model No.	BWDW-0.1KN	BWDW-0.2KN	BWDW-0.5KN	BWDW-1KN	BWDW-2KN	BWDW-5KN
Load Range	100N,	200N	500N,	1KN	2KN	5KN
Frame proof load capacity	150% of rate capacity					
Multiple load cell in one machine function	YES					
Load Accuracy	Class 1/0.5 according ISO7500-1					
Load cell overload capacity	150% of rate capacity					
Load measuring resolution	1/500000 FS, stepless					
Position / displacement resolution	0.001mm					
Crosshead travel	1150mm					
Tensile test space	800mm					
Compression test space	900mm					
Standard tensile test fixture	Corrugated Opposite clamping					
Compression platen diameter	Φ100mm					
Testing speed range	0.001 mm/min ~ 500 mm/min, stepless, adjustable arbitrarily					
Weight	110kg					
Standard Power	220/110V, 50/60HZ, 1 phase					
Dimensions	520×410×1500mm					
Analysis software	Smart Test					
Working system	MS Win7 / Win10					
Load measurement accuracy	+/- 0.5% of applied load from 2% to 100% capacity; extended range down to 1%capacity with accuracy of 1% of applied load					
Position measurement accuracy	+/- 0.01% of reading or 0.001 mm, whichever is greater					
Deformation measuring accuracy and measuring range	2% ~ 100%FS, ≤±0.5%					
Strain measurement accuracy	+/- 0.5% of indicated load from 0.2% to 100% capacity FS					
Speed accuracy	±1%(0.001~10mm/min), ±0.5%(10~500mm/min)					
Operating temperature range	0 to 38 degrees C (32 to 100 degrees F)					
Storage temperature range	-10 to 45 degrees C (14 to 115 degrees F)					
Humidity range	10% to 90% non-condensing, wet bulb method					
Power	standard optional voltages110/220VAC, 50-60 Hz; power must be free of spikes and surges exceeding 10% of the nominal voltage.					

**STANDARD ACCESSORIES:**

High stiffness frame	1 set	
Servo driving system: (Japan Panasonic/FUJI Electronic) Servo motor: (Japan Panasonic/FUJI Electronic)	1 set	
Loadcell (5KN): USA Vishay Celtron	1 set	
Decelerator and deceleration system	1 set	
Leading screw: (Korean Taijing Precision ball leading screw)	1 set	
Vice type Tensile test grip	1 set	
Compression test fixture(Φ100mm)	1 set	
USB Hand remote controller	1 set	
Tool kit (screwdriver, spanner etc.)	1 set	
STC8800 control card	1 set	
Professional testing software(Smart Test, English version)	1 set	
<i>Metal tensile testing method (ISO 6892); Plastic tensile testing method (ISO 527)</i>		
<i>Compression testing method (ASTM E9);</i>		
<i>Customize testing method function available.</i>		
Documents (Manual, packing list, certificate)		