



BANBROS ENGINEERING PVT. LTD.

The Precision Measurement People

COMPUTERIZED UNIVERSAL TESTING MACHINE WITH SERVO SYSTEM



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



BWDW-SERIES

**DESCRIPTION:**

BWDW Series Computer Control Electronic Universal Testing Machine made by BANBROS with various models like single columns, double columns, floor model, table top, door frame type etc., is used to perform tension, compression, flexure/bending, shearing, peeling, tear, cyclic etc., test for metal and non-metal specimens.

This Series Floor Model & Dual Column testing systems provide simplicity, performance and affordability for quality control (QC) labs and production testing.

These models are robust, heavy-duty frames commonly used for testing high-strength metals and alloys, advanced composites, aerospace and automotive structures, bolts, fasteners, and plate steels. Frames are available in load capacities of 10Kn to 300Kn; and several variations are available to accommodate requirements for both extended travel and extra wide test space.

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

APPLICATION:

These Machines are suitable to use in medical devices, biomaterials, textiles, elastomers, food, small components, wire, paper, plastic, film, fibers and threads, adhesives and many more.

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:**

- Frame are proof loaded to 300% 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 & baking paint technology, appearance, no corrosion and no need lubrication oil maintenance.
- Adopt Japan Panasonic/FUJI AC servo motor 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%.
- 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:

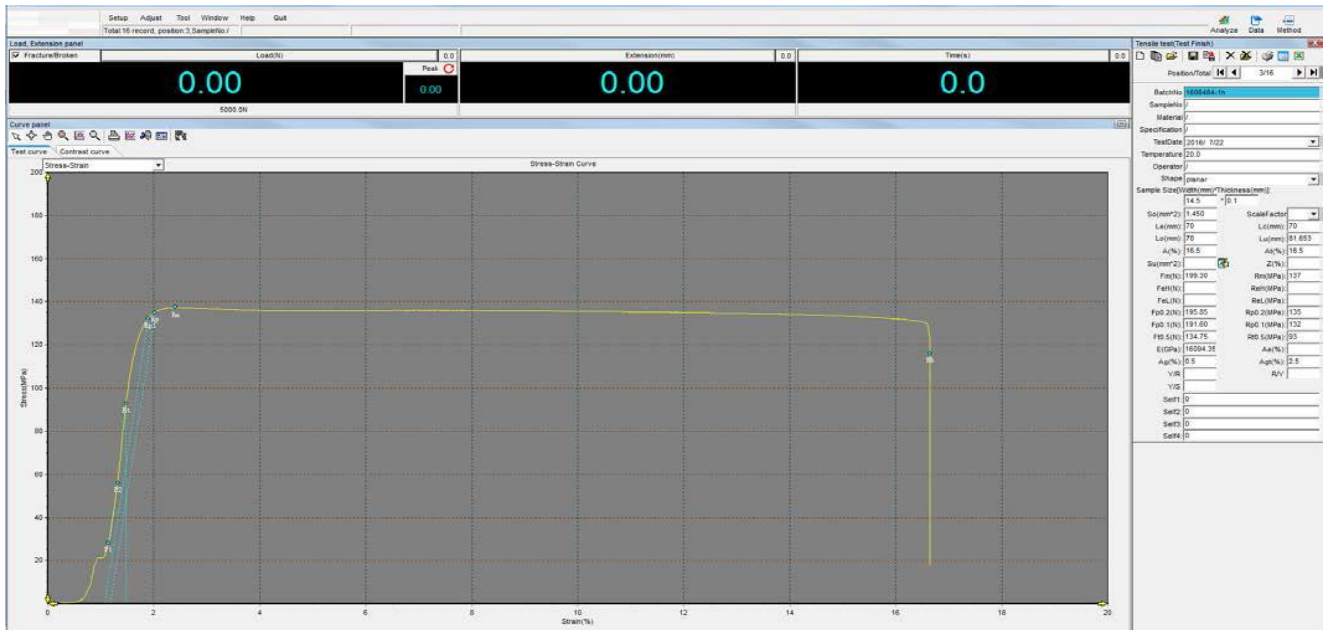
- Sensor of position limitation switch.
- Emergency stop switch.
- Hardware driving system overload protection, over voltage, current protection.
- Software over load protection.

CONTROL SYSTEM, SOFTWARE:

- Based on full digital STC8800 measuring and control card; Data collection system use 4 channels of high accuracy 24-digit A/D converter.
- Real time load, deformation, crosshead displacement, test process four kind close loop control.
- Resolution can upto 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 curves at same time, can fold curve or portion enlarge to analyse and compare sample characters.
- Lead-times, Load displacement, Displacement time etc. curve smoothly switch, display test data, save, analysis and print.

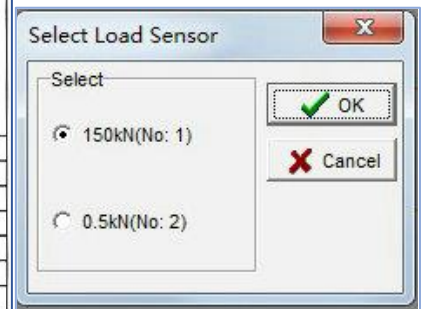


POWERFUL FUNCTION SOFTWARE:



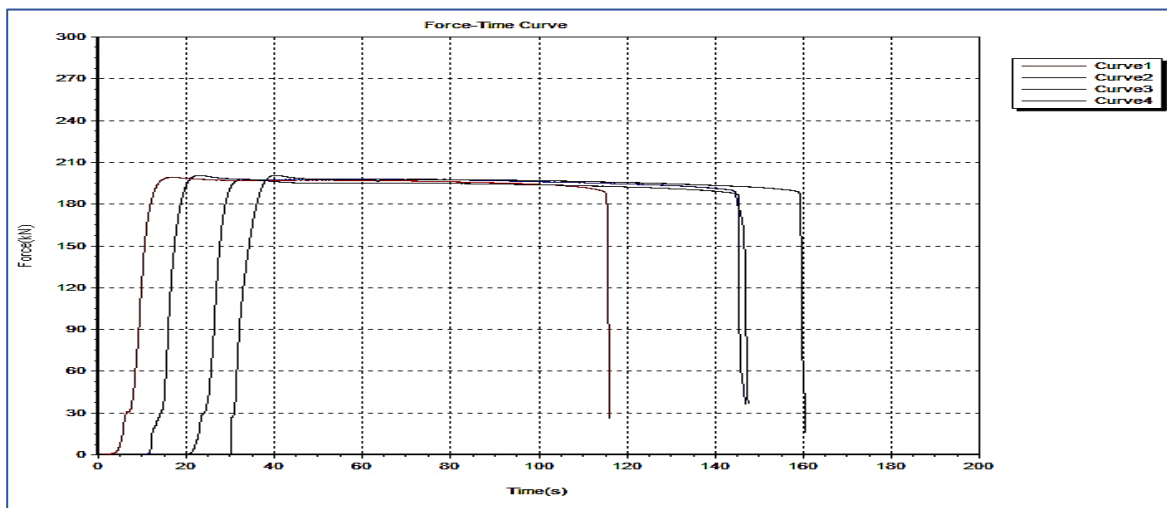
Main Interface for Test and Result Display

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



**TECHNICAL SPECIFICATION:**

Model No.	BWDW-10KN	BWDW-20KN	BWDW-30KN	BWDW-50KN	BWDW-100KN	BWDW-200KN	BWDW-300KN
Load capacity	10KN	20KN	30KN	50KN	100KN	200KN	300KN
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	1200mm					1250mm	
Tensile test space	700mm					750mm	
Compression test space	800mm					850mm	
Effective test width(Clearance b/w columns)	500mm					600mm	
Standard tensile test fixture	Manual wedge type					Manual wedge type (Optional: Hydraulic automatic wedge grip)	
Wedge tensile fixture flat specimen range	0-20mm					0-20mm	0-26mm
Wedge tensile fixture round specimen range	Φ4- Φ20mm					Φ4- Φ26mm	Φ4- Φ32mm
Compression platen diameter	Φ100mm					Φ120mm	
Testing speed range	0.001mm/min ~ 500mm/min, stepless, adjustable arbitrarily (Optional max. 1000mm/min)						
Weight	450Kg ~ 650Kg					1200Kg	1300Kg
Standard Power	220/110V, 50/60HZ, 1 phase					220V, 50, 1 phase	
Dimensions						1050×880 ×2450mm	1100×900 ×2550mm
Analysis software	Smart Test English version						
Frame structure	Standard: Dual test space Optional: Single test space						

Specifications: -

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 voltages 110/220VAC, 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: USA Vishay Celtron	1 set	 
Decelerator and deceleration system	1 set	
Leading screw: (Korean Taijing Precision ball leading screw)	1 set	
Wedge tensile test fixture	1 set	
Compression test fixture(Φ100mm)	1 set	
Bending test fixture	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	
Documents (Manual, Test certificate)		