COMPUTER CONTROLLED ELECTRONIC UNIVERSAL TESTING MACHINE

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

B-UT-5KN

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DESCRIPTION:

B-UT SERIES Computer Control Electronic Universal Testing Machine made by BANBROS range from 100N to 600KN load capacity with various models like single columns, table type, door frame type etc., is used to perform tension, compression, flexure/bending, shearing, peeling etc., test for metal and nonmetal specimens.

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:

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:

1) This electronic universal testing machine is designed to achieve high rigidity, high stability, no vibration and impact performance, and at the same time has a streamlined high-end appearance design to meet the high-precision requirements of material mechanical properties testing.

2) **Structure:**
   Main frame: made of high-strength aluminum alloy, precision machined and anodized to ensure high rigidity and corrosion resistance. The frame structure is optimized by finite element analysis to effectively disperse stress and reduce deformation.
   Single-column design: The single-arm structure is simple and compact, occupies a small space, and is easy to operate and maintain. Large-diameter high-precision ball screws are used to achieve smooth loading and displacement control.
   Streamlined appearance: Use industrial design concepts to create smooth lines and exquisite appearance, and enhance the overall beauty and quality of the equipment.

3) **Key components:**
   Load cell: High-precision load sensor is selected, and the measurement accuracy can reach ±0.1% FS to ensure the accuracy of force measurement. At the same time, it is equipped with a displacement sensor with a resolution of up to 0.001mm to meet the needs of high-precision displacement measurement.
   Drive system: The Japan Panasonic motor and drive system composed of AC servo motor and reducer is adopted, which has the characteristics of fast response, large torque and stable operation. Precise loading control is achieved by converting rotary motion into linear motion with high-precision ball screws.
   Control system: advanced microprocessor control system, with strong data processing and control capabilities. It supports a variety of control modes, such as force control, displacement control, strain control, etc., which can be flexibly switched according to different testing needs.

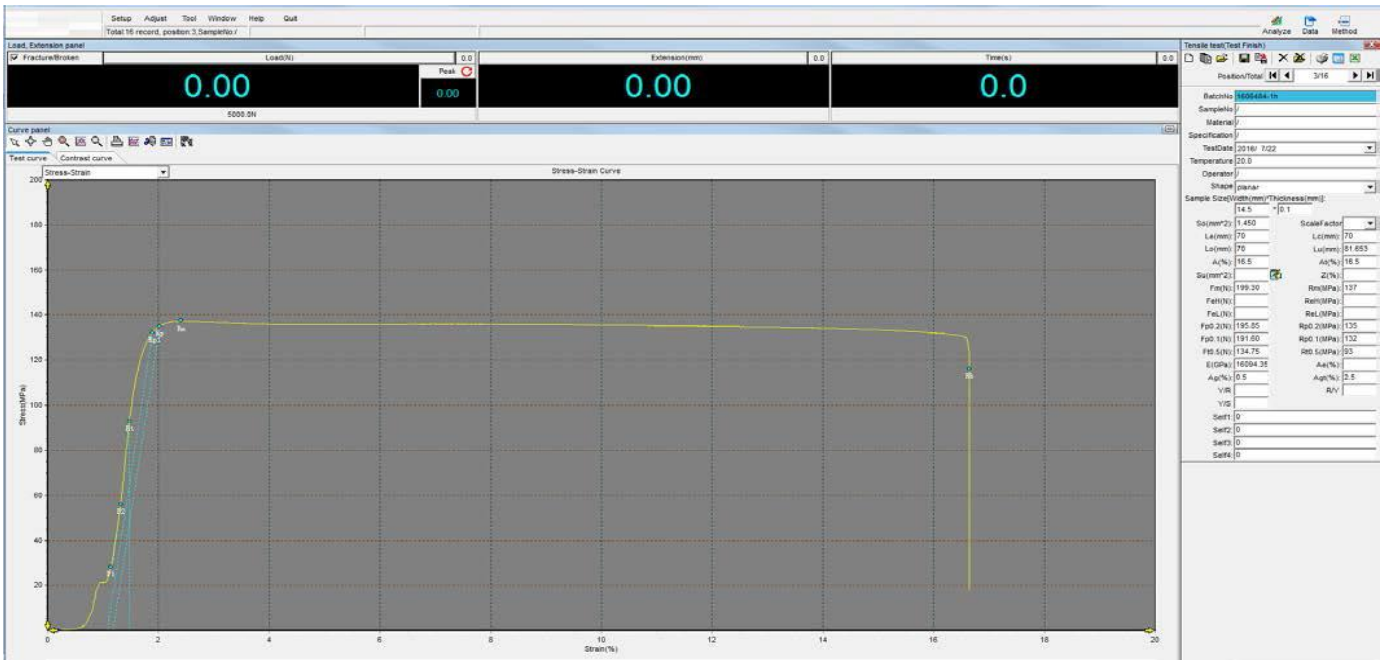
4) Anti-vibration and impact suppression technology:

Vibration isolation system: A high-performance vibration isolation rubber pad is installed at the bottom of the equipment to effectively isolate the impact of external vibration on the equipment. At the same time, a flexible connection method is adopted at the connection of key components to reduce the transmission of internal vibration.

Buffer device: A buffer device, such as a hydraulic buffer or a spring buffer, is set in the loading system, which can quickly absorb the impact energy and avoid damage to the equipment when the test is completed or overload occurs.

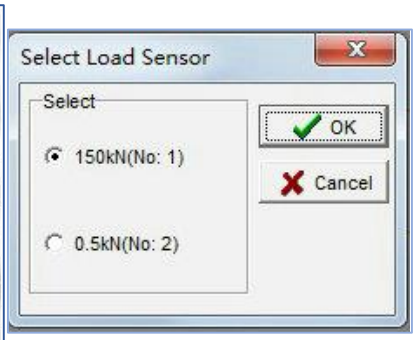
Intelligent control algorithm: Through the intelligent algorithm of the control system, the loading process is monitored and adjusted in real time to ensure the smooth change of loading speed and force value, and reduce the generation of vibration and impact.

POWERFUL FUNCTION SOFTWARE:



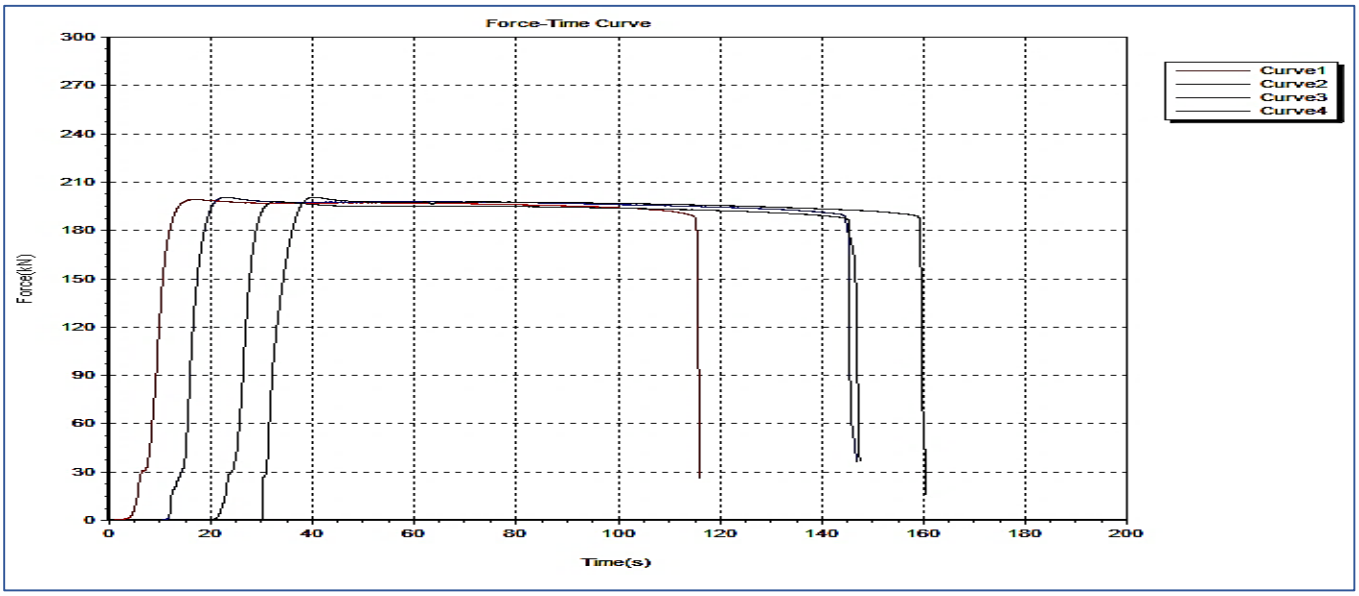
Main Interface for Test and Result Display

PEEL TEST SAMPLE NUMBER	PEEL SAMPLE FITTING GAP (mm)	PEEL TEST MAXMIUM 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)	PERSENTAGE 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.	B-UT-5KN
Load capacity	5KN（0.4%--100%）
Multiple load cell in one machine function	YES
Load accuracy	Class 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	Screw action grip
Compression platen diameter	Φ100mm
Testing speed range	0.001mm/min ～ 1000mm/min, stepless, adjustable arbitrarily
Weight	130kg
Standard power	220/110V, 50/60HZ, 1 phase
Dimensions	520×410×1500mm
Analysis software	Smartest English version
Working system	MS Win10

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 voltages110/220VAC, 50-60 Hz; power must be free of spikes and surges exceeding 10% of the nominal voltage.

STANDARD ACCESSORIES:

Robust precision stiffness frame	1 set	
Servo driving system: (Japan Panasonic/FUJI Electronic) Servo motor: (Japan Panasonic/FUJI Electronic)	1 set	 Panasonic ideas for life Fuji Electric
Loadcell (5KN): USA Vishay celtron	1 set	 VISHAY CELTRON
Decelerator and deceleration system	1 set	
Leading screw: (Korean Taijing Precision ball leading screw)	1 set	 TAIJING
Tensile fixture	1 set	
Compression test fixture(Φ100mm)	1 set	
USB Hand remote controller	1 set	
Tool kit (screwdriver, spanner etc.)	1 set	
Computer (Win10 English)(Optinal)	1 set	
Professional testing software (Smart test, English version)	1 set	
Metal tensile testing method (ISO 6892); Plastic tensile testing method (ISO 527)		
Compression testing method (ASTM E9);		
Customize testing method function available.		
Documents (Manual, Packing list, Test certificate)		

*** Due to continuous product development, Image & specification can be upgrade.**