

BMS Series

Computerized Electronic Universal Testing Machine

OPERATIONAL MANUAL



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1 Application

It is applicable for wide range of material for tension, compression, bending, and shearing and low cycle test. Suitable for metal, rubber, plastic, spring, textile, and components testing. It is widely used in the corresponding industries, research and development, test institutes and training centers etc.

2 Standard

ASTM, ISO, DIN, GB and other international standards.

3 Main Technical Parameters

Model	BMS-01	BMS-02	BMS-03	BMS-05	BMS-1	BMS-2	BMS-3	BMS-5
Max. Load	100N	200N	300N	500N	1KN	2KN	3KN	5KN
Structure	Single Column Double Spaces							
Control Method	Computer Control							
Load Accuracy	1 Class							
Load Range	2%~100% FS							
Displacement Resolution	0.01mm							
Test Speed	0.05~500mm/min							
Tensile Space	600mm (Can be customized)							
Compression Space	600mm (Can be customized)							
Power Supply	AC220V±10%, 50Hz (Can be customized)							
Grips	Wedge Type, Plate Type And Other Grips As Customers' Demand							
Dimension	425*400*1315mm							
Weight	120 KG							

4 Main Unit Feature

- 4.1. Adopt single column structure, lower for tensile, upper for compression, double space. The beam is steeples lifting, light but rigid.
- 4.2. Adopting ball screw drive, realize no clearance transmission, make sure the precision control of the test force and deformation speed.
- 4.3. The photoelectric encoder is the displacement sensor, with high resolution, strong anti-interference ability.
- 4.4. The shiel plate with limit mechanism used to control the beam moving range, in order to avoid sensor damaged due to the moving distance is too large.
- 4.5. The table, moving beams is made of high quality precision machining steel plate, not only reduce the vibration generated by specimen fracture, but also improve the stiffness.
- 4.6. The motor tail is upwards, above the work surface, this design makes the main unit lower space narrowing, the whole machine is more coordinating, and easier to spread out the heat generated by the motor rotation, extend electrical components life.
- 4.7. Three columns of mandatory orientation, make the main unit rigidity much improved, to further ensure the repeatability of measurement.
- 4.8. Adopt bolt type grip installation, make the grip replace easier.

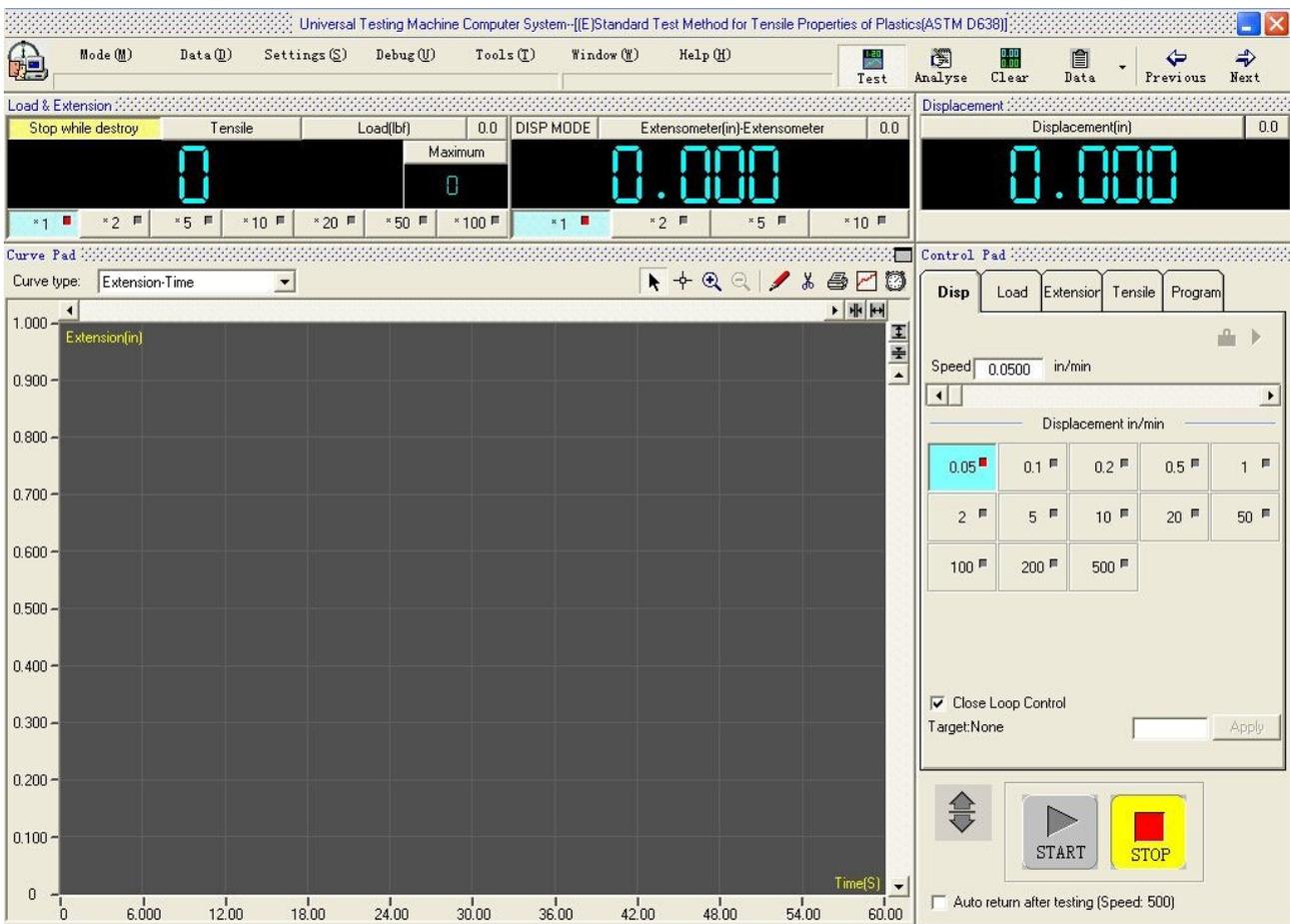
5 Software Function

- 5.1. Defined function: according to different types of users, different material properties, different test standards, different languages, flexible setting the test program to meet the test requirements.
- 5.2. Input Function: Entry specimen parameters before the test, you can single input sample parameter, you can also batch input sample parameters, you can modify the sample parameters before the test, the specimen parameters can be modified after the test, fully satisfy your operating habits.
- 5.3. Data processing query functions: fully equipped data query function, print function, the export function to ensure the accuracy of the test data, reliability, real embody and reflect the nature and characteristics of the material test data.
- 5.4. Curve analysis function: All the material properties can be reflected by the data curve, so the powerful data curve analysis function can help you better mastery and understanding of the material test properties, which is your best helper to analyze the material.

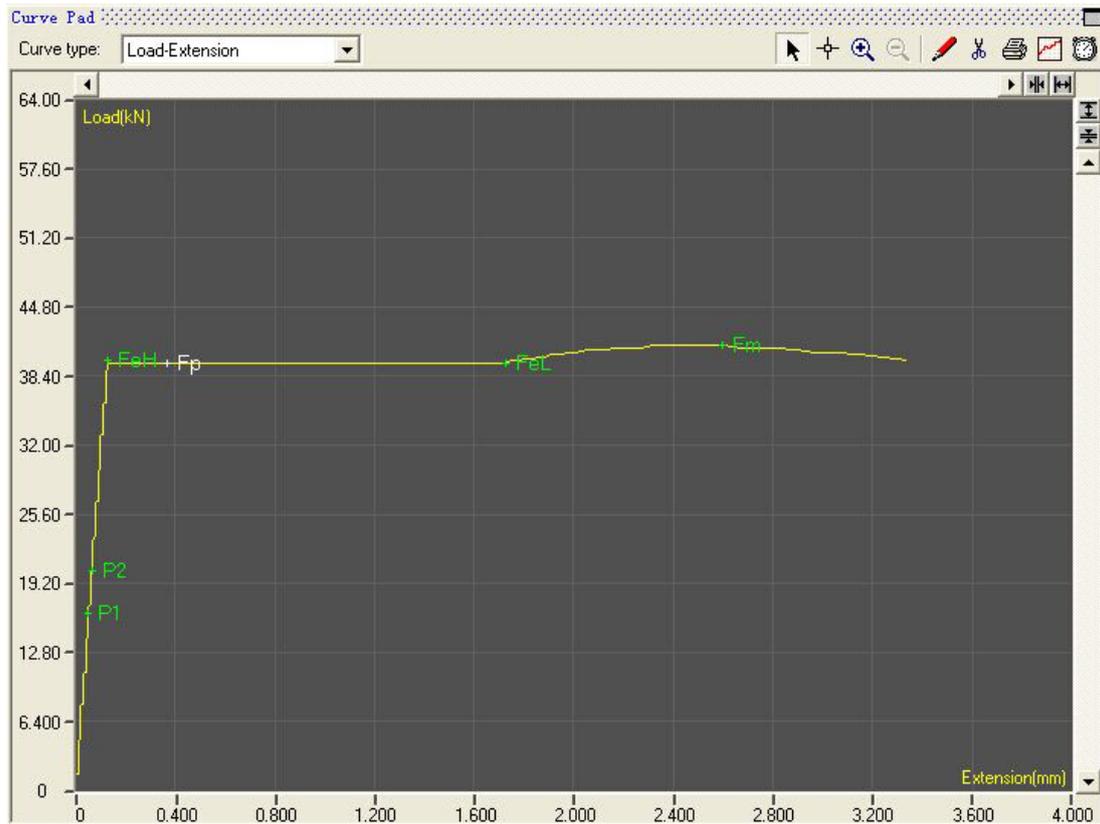
6 Software Features

- 6.1. Auto zero clearing: After starting test, the system auto zero clearing.
- 6.2. Auto calibration: system can automatically realize the value accuracy of the calibration.
- 6.3. Auto return: finish test, the cross beam will auto return to the starting position.
- 6.4. Auto gear shifting (when choose classify gear test): According to the load size automatically switch to the appropriate range, to ensure the accuracy of the test data.
- 6.5. Auto speed changing: The cross beam moving speed can auto changing during the test process according to the preset program, also can manual change.
- 6.6. Auto saving: adopting the database management way, the test data and curve automatically saved after the test.
- 6.7. Auto calculating: when finish test, automatic calculate elastic modulus, yield strength and the non-proportional elongation stress, etc. (Different test method, different analysis date.), can auto analyze, also be artificial correction analysis results, and improve the accuracy of the analysis.
- 6.8. Display way: Dynamic display of data and curves with the testing process.
- 6.9. Result comparison: Multiple test curve can use different color superposition, reappear, and enlarge, presenting comparison of a set of sample.
- 6.10. Curve choice: can choose Stress - strain, force - displacement, force - time, force-deformation, displacement - time, and other curves to display and print; Can switch at any time to observe, zoom in and zoom out, horizontal or vertical movement, real-time high speed sampling.
- 6.11. Test standard: Integrated with about 40 kinds of national standard or test method, can meet the various test need of customers.
- 6.12. Test report: According to user required format, using EXCEL to compile reports and print bulk data.
- 6.13. Limit protection: with mechanical and programmable two level limit protection function.
- 6.14. Overload protection: with two grade overload protection. Cross beam moving overload: when the load exceeds 0.2-0.5% of the maximum value of the scale, automatic stop. Test overload: when the load exceeds 2-5% maximum value of the each file, automatic stop.
- 6.15. Other protection: with overload, over current, over voltage, the displacement upper and lower limit and emergency stop protection function.

7 Software Interface



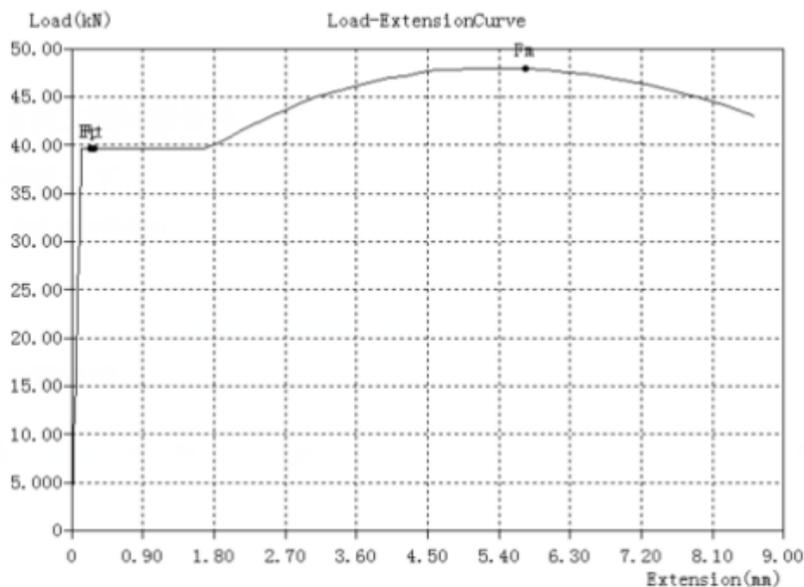
Load-extension, Force - time, force - displacement etc. more curve to choice:



Excel, word and template test report, and the report can be edited customized.

African Maritime Services (pty) Ltd.

SampleID	1	TestDate	2014-6-4
Operator		Type	Circle
Size (mm)	12	Ao (mm ²)	113.10
Lo (mm)	50	Lu (mm)	51
A (%)	2.0	Au (mm ²)	103
Z (%)	9.0	Fm (kN)	48.00
Rm (MPa)	425	FeH (kN)	/
UYS (MPa)	/	FeL (kN)	39.60
LYS (MPa)	350	Fp (kN)	39.60
Rp (MPa)	350	Ft (kN)	39.60
Rt (MPa)	350	E (GPa)	139.01



8 Configurations

NO.	NAME	QTY
7.1	High strength main unit	1 SET
7.2	High precision arc synchronous deceleration system	1 SUIT
7.3	High precision ball screw	2 PCS
7.4	Measurement control system	1 SUIT
7.5	High accuracy photoelectric encoder	1 PC
7.6	Digital speed regulating control system	1 SUIT
7.7	Motor and Control system	1 SUIT
7.8	High precision load sensor	1 PC
7.9	HS-max test software	1 SUIT
7.10	Tensile fixture	1 SUIT
7.11	Compression fixture	1 SUIT
7.12	Bending fixture (Optional)	1 SUIT
7.13	Lenovo computer	1 SET
7.14	HP printer	1 SET
7.15	Large deformation extensometer(Optional) Max deformation:800mm, Gauge Length:10mm	1 SUIT
		