

NEEDLE TESTING MACHINE

UNIVERSAL TESTING MACHINE - MODEL: EM-SSB-500N

EQVIMECH



The EQVIMECH EM-SSB-500N is a Single Column Universal Testing Machine having a frame capacity up to 5kN. This machine is designed to test a wide range of materials, including, but not limited to: SS Needles, metals, laminated composites, rigid plastics, films, paper, thin sheet metal, adhesives, and foils, in tension, compression, flexure, shear, and peel.

Load measurement accuracy: $\pm 0.5\%$ of indicated load from 2% to 100% capacity; extended range. Position measurement accuracy: $\pm 0.01\%$ of reading or 0.001 mm, whichever is greater. Speed accuracy: $\pm 0.5\%$ of set speed.

Test Standards: **ISO 9626 | ISO 7864 | ISO 7886 | ISO 10555**

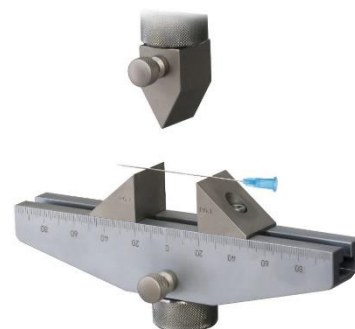
Features:

- 100:1 force range (i.e. use the load cell to 1.0% of capacity with no loss of accuracy)
- Load accuracy of 0.5% of indicated load
- Full software control (cyclic capability optional)
- Automatic transducer recognition
- Thousands of optional grips and fixtures
- Optional temperature chambers
- Color: Black base with Gray columns
- Advanced load sensor sensing through advanced electronics.
- Highly sensitive load sensor with linearity feature and repeatability
- Speed Control through Variable Frequency drive automation by Graphic user interface PC.
- Cross head travel length: 800 mm without grip
- Safety limit switches for over travel safety
- Advanced Navigation System



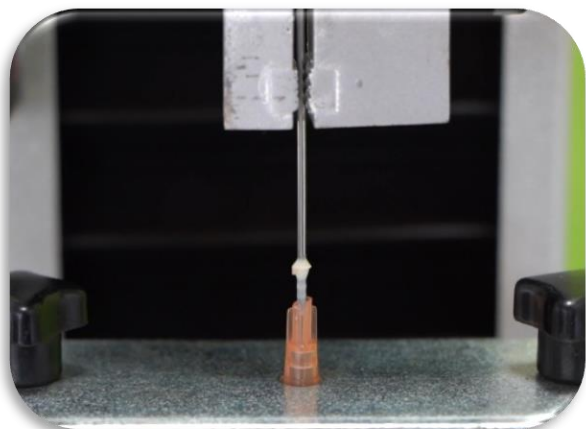
- High accurate micro-controller based system controls with integrated software
- Secured working with key protection feature
- Automatic end test/return to home position through software interface after completion of test.
- Immediate analysis of results after test with complete accuracy & precision.

Reliable and user-friendly interface in various industries like rubber, plastics, automotive, polymers, textiles, R&D labs, production, material testing.



Technical Specification:

Capacity	50N to 5 kN
Load cells available	50N to 5 kN (5kg – 500kg)
Maximum crosshead travel	1000 mm
Testing speed range	1 to 500 mm/min
Maximum crosshead speed at 5 kN	500 mm/min
Frame stiffness	10kN/mm
Dimensions (H × W × D)	1200 mm × 350 mm × 350 mm
Weight	115 kg
Display	Graphical with test data output through inbuilt software
Power	220 V, Single phase, 50 Hz
Accuracy	± 0.5 % at 2 to 100 % Full Load
Standard Speed	0.5-500mm/min *Optional through computer software
Grip to Grip Suspension	Min 25 mm and Max.900 mm (applicable only with vice type standard grip)
Display	LED/LCD/HMI
Drive Mechanism	Variable Frequency Drive
Safety	Yes
Grippers	Needle Penetration Tester (Standard Gripper) Needle Bondage Tester Syringe Pull-Push Tester Needle Bend Test, Cap-Hub Assembly & More...
Communication Converter	RS 232
Material	Mild Steel
Finish	Power coated / Zinc plating for corrosion resistant finish



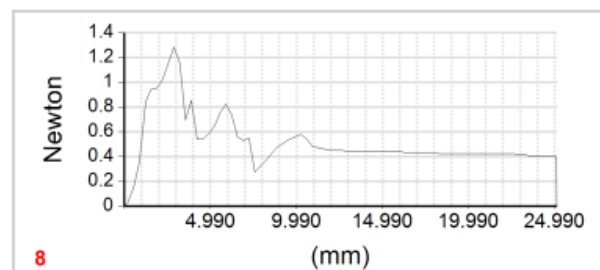
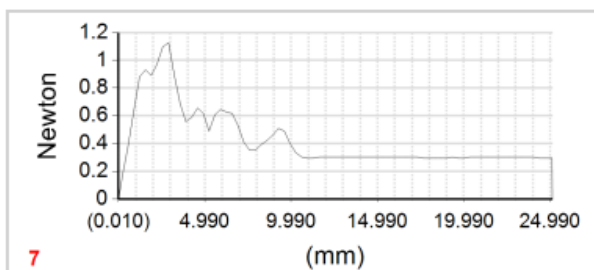
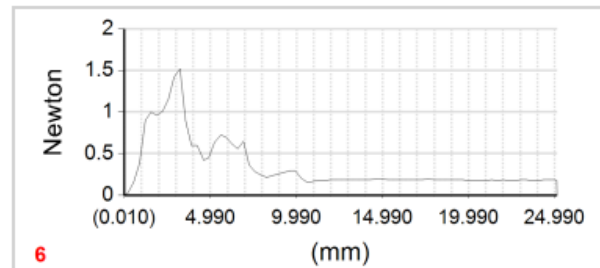
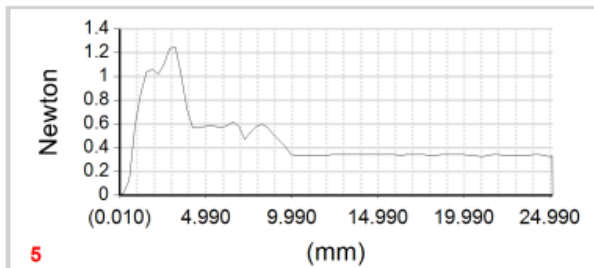
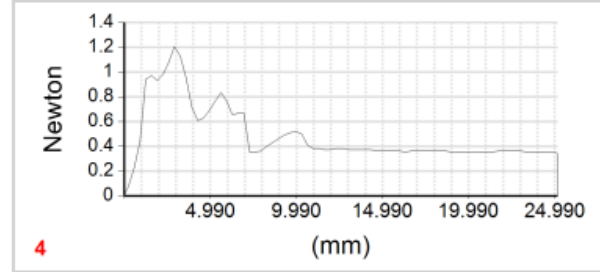
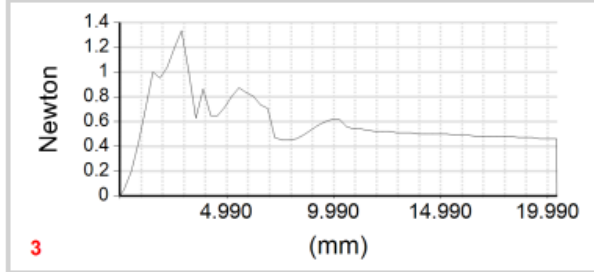
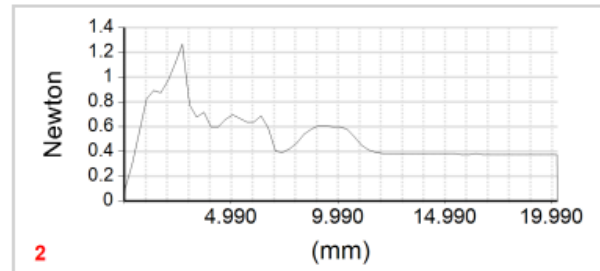
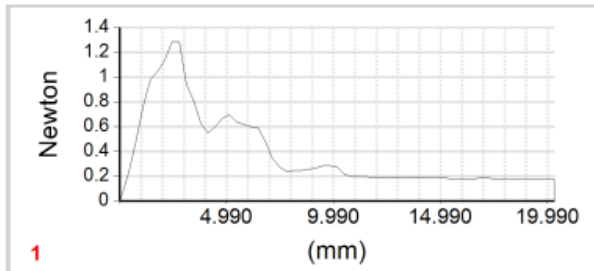
SOFTWARE APPLICATION

Compatible with all Microsoft Operating System: Windows 7,10.

EQVIMECH PVT LTD

Gala No. A-57, Kohinur Industrial Complex

Sr.No.	Test Date	Test Period	Sample Name	Test Speed	Peak Load (N)	Peak Deflection (mm)	Gliding Force
1	01-04-2024	12:10:17	20G Polymed 1	200	1.28	2.44	0.2
2	01-04-2024	12:11:12	20G Polymed 2	200	1.26	2.71	0.42
3	01-04-2024	12:12:04	20G Polymed 3	200	1.33	2.88	0.51
4	01-04-2024	12:13:07	20G Polymed 4	200	1.21	2.91	0.36
5	01-04-2024	12:14:02	20G Polymed 5	200	1.24	3.23	0.34
6	01-04-2024	12:14:53	20G Polymed 6	200	1.52	3.23	0.18
7	01-04-2024	12:15:47	20G Polymed 7	200	1.13	2.9	0.3
8	01-04-2024	12:16:43	20G Polymed 8	200	1.28	2.88	0.43



Universal Testing Machine 3 (LCD)

EQVIMECH
Ver.3.21.2.21

File | Samples | Settings | Home | Tare | Reports | Start

Last Test Conducted | Current UTM Settings

File	
Peak Load	0.0
Peak Length	0.0
Break Load	0.0
Break Length	0.0
Sample Area	0.0
	0.0
	0.0
	0.0

Sample Type:

Test Type:

Batch No.: Serial No.:

Sample ID:

Sample Shape:

Width: mm

Thickness: mm

Grip Separation: mm

Customer:

File:

Load Cell No.:

Unit of Load: Encoder

Speed: mm/min

Pulley No.:

Comm. Status

Load: Kg

Disp.: mm

Rate: secs

STATUS

KG

Load vs Time

20:31:24 15-08-2021 00:00:00

20:31:44 00:00:10

20:31:54 00:00:20

20:32:04 15-08-2021 00:00:30

X: 20:32:00 Y:98.90909

admin COM1

Test Report
EQVIMECH PVT LTD
D-22, Balaji Indl Park, Taloja MIDC, Navi Mumbai-410208

Test Report No.	Customer
Started On	20-Feb-2021
Test Period	18.28.19 - 18.28.31
Test Type	COMPRESSION
Serial No.	35
Test File	T0000056.DAT
Lot No.	4321
Sample Name	22G WITHOUT OIL SAMPLE 1
Ref. No.	% Elong. @ Peak
Width	18.000 mm
Thickness	0.000 mm
Length	10.000 mm
Area	254.340 Sq.mm
Speed	50.0 mm/min
Test Specs.	Set Load
Equipment No.	Youngs Modulus
Operator Name	admin
Temperature	0
Relative Humidity	0

Load at Peak 3.640 N

Elong. @ Peak 0.730 mm

Elong. @ Break 7.680 mm

Peak Strength 0.0143 MPa

Break Strength 0.0029 MPa

% Elong. @ Peak 50.30

% Elong. @ Break 76.80

Formula 1 0

Formula 2 0

Formula 3 0

Formula 4 0

Set Load

Youngs Modulus 0.00 MPa

Yield Stress

Average Points

Well Thickness

40

32

24

16

8

0

0.000 2.500 5.000 7.500 10.000 12.500 15.000 17.500 20.000 22.500 25.000 27.500 30.000 32.500 35.000 37.500 40.000 42.500 45.000 47.500 50.000

Result:

Conclusion:

Checked By:

Date:

Test Report
Veermata Jijabai Technological Institute
H R Mahajani Road, Matunga Mumbai Maharashtra 400019

Test Report No.	Customer
Started On	24-Jul-2021
Test Period	14:48:32 - 14:49:06
Test Type	TENSILE
Serial No.	8
Test File	T0000008.DAT
Ref. No.	
Lot No.	EST
Sample Name	HG
Width	23.000 mm
Thickness	1.600 mm
Length	1.000 mm
Area	36.800 Sq.mm
Speed	25
Test Specs.	Set Load
Equipment No.	UTM-12-50KN
Operator Name	admin
Temperature	0
Relative Humidity	0

Load at Peak 13799.459 N

Elong. @ Peak 12419.513 N

Elong. @ Break 5.030 mm

Peak Strength 12.940 mm

Break Strength 375.0 MPa

% Elong. @ Peak 337.5 MPa

% Elong. @ Break 1294.00

Formula 1 0

Formula 2 0

Formula 3 0

Formula 4 0

Set Load

Youngs Modulus 0.00 MPa

Yield Stress

Average Points

40

32

24

16

8

0

0.000 2.500 5.000 7.500 10.000 12.500 15.000 17.500 20.000 22.500 25.000 27.500 30.000 32.500 35.000 37.500 40.000 42.500 45.000 47.500 50.000

Result:

Conclusion:

Checked By:

Date:



COMPUTERISED
REPORT



COMBINATION
REPORT



PEAK FORCE-
DEFLECTION
RATIO



GLIDING/FRICTION
FORCE



EASY & RELIABLE

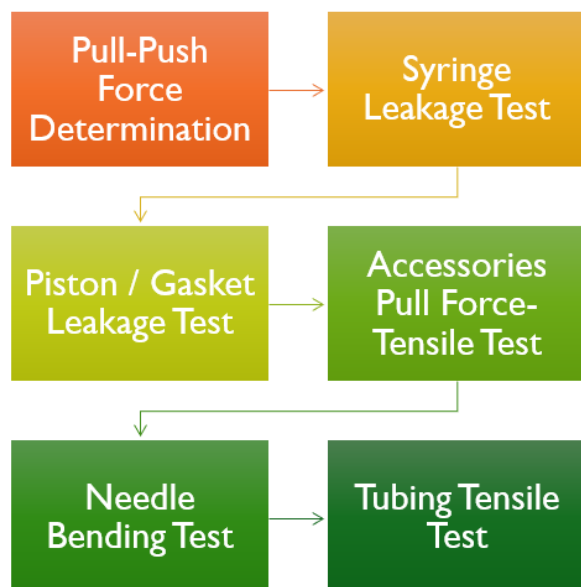


FAST & SHARE
FRIENDLY PDF
OUTPUT



RAW DATA FOR
DETAILED ANALYSIS

Syringe, Tube, Leuer



Test & Standards

- Hypodermic Needle Penetration Test
- IV Canula Sharpness/Penetration Test
- Peak Force
- Deflection & Peak Force
- Gliding Force

- ISO 9626
- ISO 7864
- ISO 7886
- ISO 10555



GRIPS AS PER SAMPLE MATERIAL



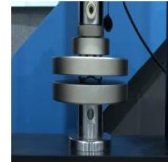
- **Vice Type Grip**
(Screw Side Action
Tensile Grips):
Rubber, Plastic,
Metal etc.



- **Wedge Type Grip**
Rubber, Plastic,
Metal, Fabric and
More.



- **Roller Type Grip**
Rubber, Plastic, Fabric
and More.



- **Compression Plate**
Spring, Rubber, Plastic,
Cement Cube, Metal,
Food, Tablet (medicine)
Pipe, Soil and More.



- **Pneumatic Grip**
Rubber, Plastic,
Metal, Fabric and
More.



- **Hydraulic Grip**
Metal, Pipe, Rod
And More.



- **3 - Point Bend
Test Grip**
Plastic, Tile, Wire,
Concrete, Wood,
Composite Material
Pipe, Metal, Fibre,
Cardboard, Glass
And More.



- **Pull - Off Adhesion
Test Grip**
Tile, Cement, Paint,
Coating Material,
Composite Material And
More.



- **Shear Adhesion
Test Grip**
Tile, Cement,
Composite Material
And More.



- **Peel Adhesion
Test Grip**
Paper, Fabric,
Plastic, Film, Tape
And More.



- **MOR(Modulus of
Rupture)**
Tiles, Glass, Marble,
Acrylic And More.



- **Coefficient of
Friction Test Grip**
Paper, Fabric, Plastic,
Film, Tape.



- **Burst or Puncture**
Paper, Fabric, Plastic, Film And
More.



- **Webbing Tensile Grips**
Textile Webbing, Cargo
Straps, And Seat Belt
Material