

# Universal Testing Machine

Model: NRI-TS500 - xx

## Application

- The series single column testing system for tension and compression applications where loads less than 5kN.
- >Designed with strong linear motion guide and servo motor.
- >Increased lateral stiffness to ensure linear crosshead travel.
- >Servo motor equipped with precise planet-gear speed reducer providing higher efficiency and low noise.
- >Wide range of test accessories allows to meet test requirements of different standards and for different materials.
- >This series is suitable to test: plastics, wires, bars, biomaterials, adhesive materials, etc...



## Standards:

ASTM A370, ASTM E4, ASTM E8, ASTM E9, ISO 6892, ISO 7438, ISO 7500-1, EN 10002-4, GB/T 228-2002, HG/T 3844-2008, QBT 11130-1991, GB 13-22-1991, HG/T 3849-2008, GB 6349-1986, GB/T 1040.2-2006, ASTM C165, EN 826,

Model	NRI-TS500-1S	NRI-TS500-2S	NRI-TS500-5S
Max. Capacity	1.0 kN	2kN	5 kN
Measuring system	Conforms to JIS B7721, ISO 7500-1, BS1610, DIN 51221 Class 0.5, and ASTM E4 Grade 0.5		
Test speed (mm/min)	0.001 ~ 1000		
Speed precision	±0.1%		
Force measurement	Load cell 2±0.1% mV/V		
Position	Optical encoder		
Crosshead position precision	Within ±0.1% of indicated value		
Effective stroke (mm)	Normal : 900 mm	Normal : 1,000 mm	
	Extra - height model : 1400 mm		
Control system	Computer control & Software : Click Start , Auto End & Return system		
Data sampling rate	84 kHz		
Power supply (Volt)	220-230 VAC : 50 Hz		
Smart Controller	Attached on right side of main unit - detachable		

084-928-5202, 02-383-2679-80

<https://www.narin-instrument.co.th>

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NARIN INSTRUMENTS CO., LTD. 60/201 M.1 T. Bangmueng Mueng, Samutprakarn 10270. Thailand

# Universal Testing Machine

Model: WDS,WDW

## Application

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## Standards:

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MODEL	WDS-01,02,03,05,1,2,3,5	WDW-01,02,03,05,1,2,3,5
Max. Load(kN)	1,2,3,5	1,2,3,5
Control method	Digital Display	Computer control
Calibration standard	ISO 7500	
Load accuracy	Class 1	Class 0.5
Load range	2% ~ 100%F·S	0.4% ~ 100%F·S
Resolution of displacement	0.01mm	
Test speed(mm/min)	0.05-500	0.05-500
Tensile space(mm)	600 (Can be customized)	
Compression space(mm)	600 (Can be customized)	
Working environment	Room temperature 10°C ~ 30°C, relative humidity ≤ 80%	
Power supply	AC220V±10%, 50Hz/60Hz (can be customized)	
Grips	Wedge type, plate type and other grips as consumer's demand	
Dimension(mm)	425*400*1315mm	
Gross Weight	100kg	

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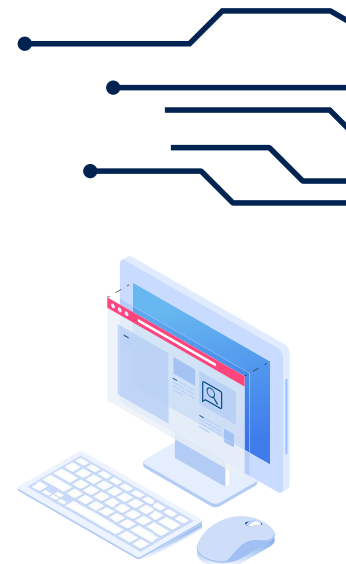
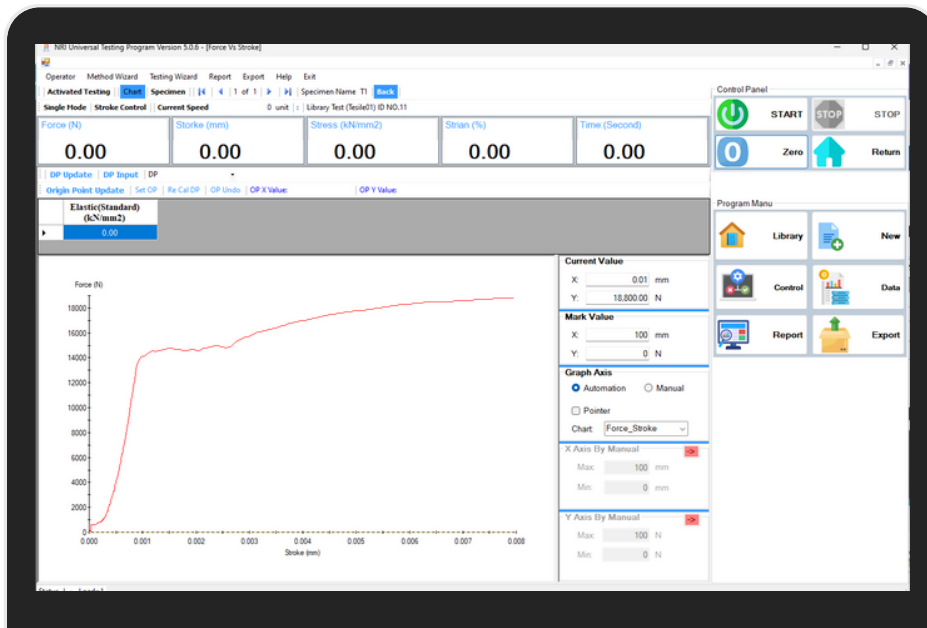
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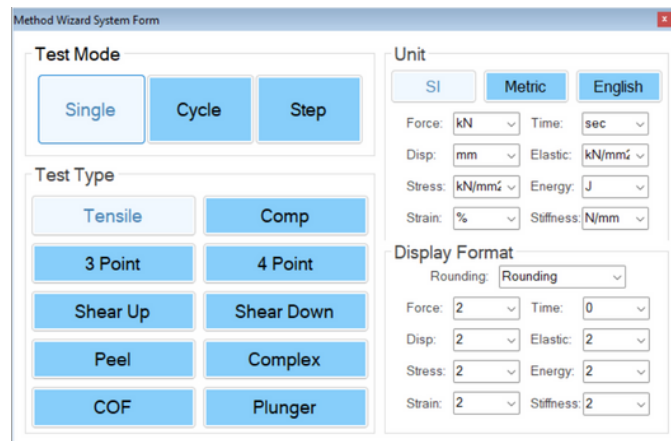
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## TEST MODE

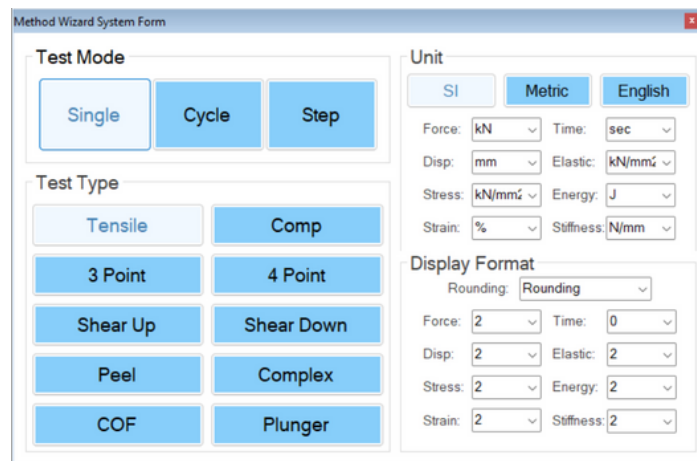
- Single
- Cycle
- Step

The screenshot shows the 'Method Wizard System Form' window. Under the 'Test Mode' section, the 'Single' button is selected. Other options include 'Cycle' and 'Step'. The 'Test Type' section has several buttons: 'Tensile', 'Comp', '3 Point', '4 Point', 'Shear Up', 'Shear Down', 'Peel', 'Complex', 'COF', and 'Plunger'. The 'Unit' section has tabs for 'SI', 'Metric', and 'English'. The 'Display Format' section includes a 'Rounding' dropdown and several input fields for Force, Time, Disp, Elastic, Stress, Energy, Strain, and Stiffness.

## TEST TYPE

- Tensile
- Compression
- 3 Point
- 4 Point
- Shear Up
- Shear Down
- Peeling
- Complex
- COF
- Plunger

This screenshot is identical to the one above, showing the 'Method Wizard System Form' window with the 'Test Mode' section visible.

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Unit: SI Metric English

Force: kN Time: sec

Disp: mm Elastic: kN/mm<sup>2</sup>

Stress: kN/mm<sup>2</sup> Energy: J

Strain: % Stiffness: N/mm

Display Format: Rounding: Rounding

Force: 2 Time: 0

Disp: 2 Elastic: 2

Stress: 2 Energy: 2

Strain: 2 Stiffness: 2



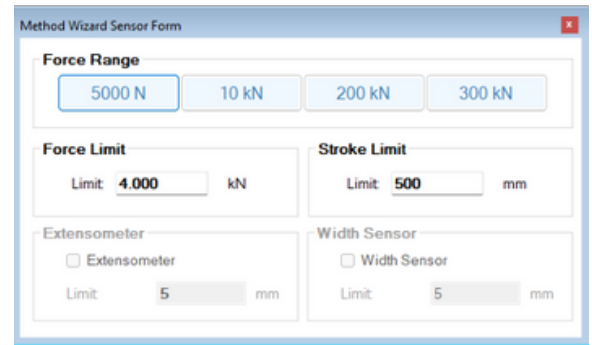
## UNIT

- SI
- METRIC
- ENGLIST



## CUSTOM DISPLAY

## MULTI SELEC LOAD



Method Wizard Sensor Form

Force Range: 5000 N 10 kN 200 kN 300 kN

Force Limit: Limit 4.000 kN

Stroke Limit: Limit 500 mm

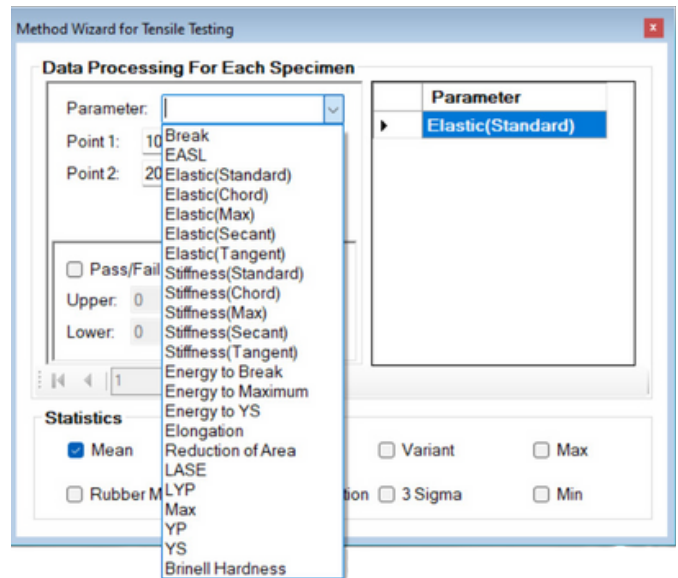
Extensometer:  Extensometer

Width Sensor:  Width Sensor

Limit 5 mm

## DATA PROCESSING

- Select Result By Use
- Calculator Statistics

Method Wizard for Tensile Testing

Data Processing For Each Specimen

Parameter: [Dropdown]

Point 1: 10 Break EASL

Point 2: 20 Elastic(Standard) Elastic(Chord) Elastic(Max) Elastic(Secant) Elastic(Tangent) Stiffness(Standard) Stiffness(Chord) Stiffness(Max) Stiffness(Secant) Stiffness(Tangent) Energy to Break Energy to Maximum Energy to YS Elongation Reduction of Area LASE LYP Max YP YS Brinell Hardness

Statistics:  Mean  Rubber M

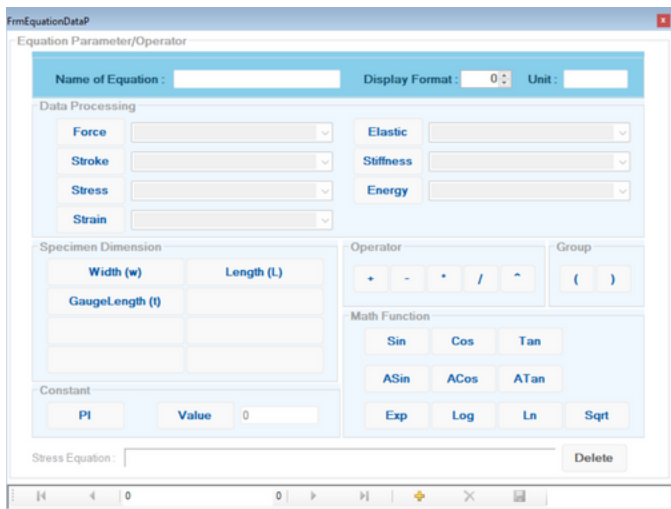
Upper: 0 Lower: 0

Parameter: Elastic(Standard)

Variant  Max  3 Sigma  Min



## FORMULA DESIGN BY USER



Equation Parameter/Operator

Name of Equation: [Text] Display Format: 0.2 Unit: [Text]

Data Processing: Force, Stroke, Stress, Strain, Elastic, Stiffness, Energy

Specimen Dimension: Width (w), Length (L), GaugeLength (t)

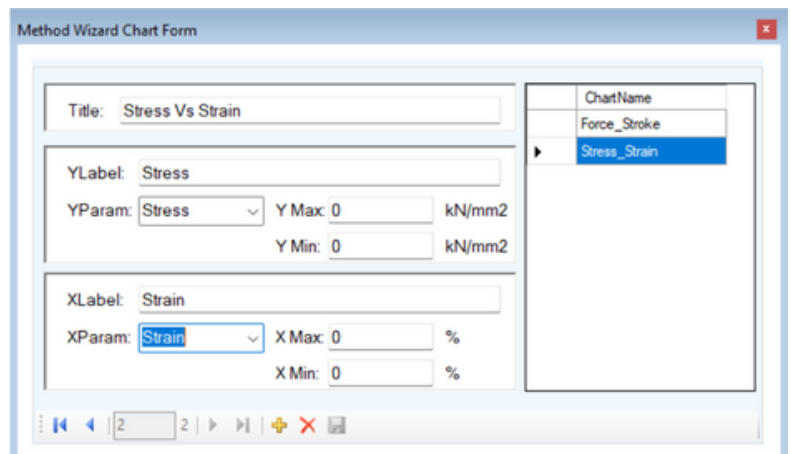
Operator: +, -, \*, /, ^, (, )

Math Function: Sin, Cos, Tan, ASin, ACos, ATan, Exp, Log, Ln, Sqrt

Constant: PI, Value 0

Stress Equation: [Text] Delete

## MULTI SELECT CHART CUSTOM BY USER

Method Wizard Chart Form

Title: Stress Vs Strain

YLabel: Stress

YParam: Stress Y Max: 0 kN/mm<sup>2</sup> Y Min: 0 kN/mm<sup>2</sup>

XLabel: Strain

XParam: Strain X Max: 0 % X Min: 0 %

ChartName: Force\_Stroke, Stress\_Strain

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Unit: SI, Metric, English

Force: kN, Time: sec

Disp: mm, Elastic: kN/mm<sup>2</sup>

Stress: kN/mm<sup>2</sup>, Energy: J

Strain: %, Stiffness: N/mm

Display Format: Rounding: Rounding

Force: 2, Time: 0

Disp: 2, Elastic: 2

Stress: 2, Energy: 2

Strain: 2, Stiffness: 2

UNIT

- SI
- METRIC
- ENGLIST

CUSTOM DISPLAY

## MULTI SELEC LOAD

Force Range: 5000 N, 10 kN, 200 kN, 300 kN

Force Limit: Limit 4.000 kN

Stroke Limit: Limit 500 mm

Extensometer:  Extensometer

Width Sensor:  Width Sensor

Limit: 5 mm

## DATA PROCESSING

- Select Result By User
- Calculator Statistics



Data Processing For Each Specimen

Parameter: [Dropdown]

Point 1: 10 Break, EASL

Point 2: 20 Elastic(Standard), Elastic(Chord), Elastic(Max), Elastic(Secant), Elastic(Tangent), Stiffness(Standard), Stiffness(Chord), Stiffness(Max), Stiffness(Secant), Stiffness(Tangent), Energy to Break, Energy to Maximum, Energy to YS, Elongation, Reduction of Area, LASE, LYP, Max, YP, YS, Brinell Hardness

Statistics:  Mean,  Rubber M

Upper: 0, Lower: 0

Parameter: Elastic(Standard)

Variant,  Max,  3 Sigma,  Min

Name of Equation: [Text], Display Format: 0.2, Unit: [Text]

Data Processing: Force, Stroke, Stress, Strain, Elastic, Stiffness, Energy

Specimen Dimension: Width (w), Length (L), GaugeLength (t)

Operator: +, -, \*, /, ^, (, )

Math Function: Sin, Cos, Tan, ASin, ACos, ATan, Exp, Log, Ln, Sqrt

Constant: PI, Value: 0

Stress Equation: [Text], Delete



FORMULA DESIGN BY USER

## MULITI SELECT CHART CUSTOM BY USER



Title: Stress Vs Strain

YLabel: Stress

YParam: Stress, Y Max: 0 kN/mm<sup>2</sup>, Y Min: 0 kN/mm<sup>2</sup>

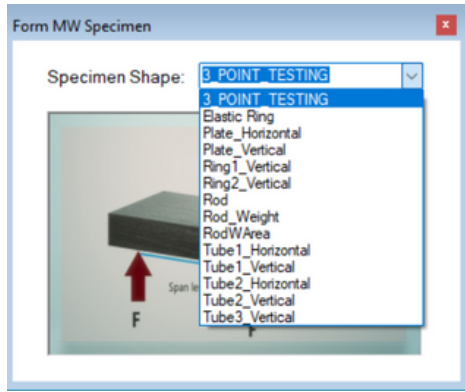
XLabel: Strain

XParam: Strain, X Max: 0 %, X Min: 0 %

ChartName: Force\_Stroke, Stress\_Strain

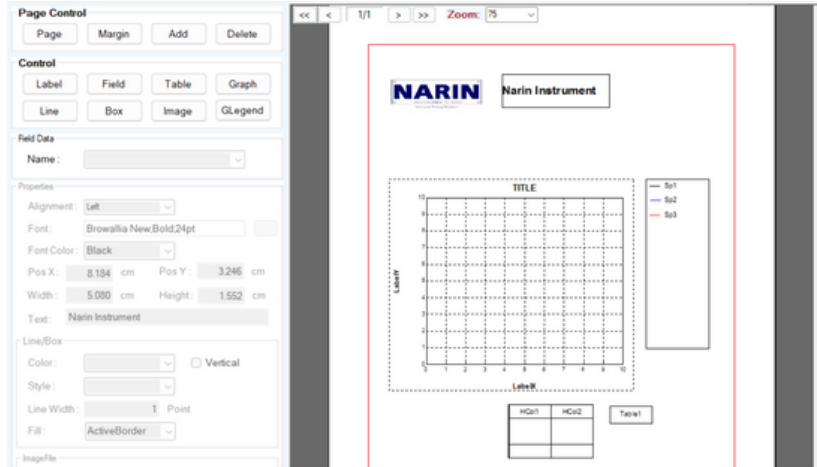
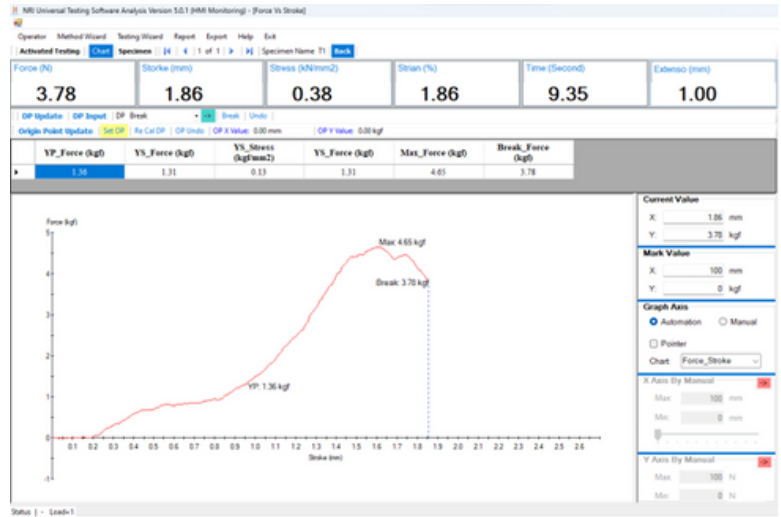
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◀ SPECIMEN SHAPE SELECT

LABELS VALUE IN CHART ▶



◀ CUSTOM REPORT BY USER

EXPORT RAW DATA AND RESULT ▶

