

2016

Universal Testing Machine



"BRAVO"
is the leading manufacturer of static
material testing instruments in Thailand

Tech Quality Co.,Ltd.

16/9/2016

BRAVO

By Tech Quality Co.,Ltd.



Specification

M20 Machine Capacity : 20KN

Crosshead Speed Range: 0.3-1,000mm/min

Displacement Resolution : 0.001mm

Crosshead Travel: 1,080 mm

Width Between Columns: 400 mm

Load Cell Accuracy: +/- 0.1% FS

Speed Accuracy: 0.5%

Data Sampling Rate: 10KHz

Operating Temperature 5° to 35°C (41° to 95°F)

Supply Voltage: 230Vac ±10% 50-60 Hz

Motor System: Panasonic servo Motor+Servo drive

High Accuracy Ball Screw Type

Weight Approx 170kg

Power 220Vac/ 50Hz

Warranty 1 Year

Universal Testing Machine

The **Stealth M1 Series** desktop Universal Testing Machine are designed to test a wide spectrum of materials including metal wire & foil, plastics, rubber, textiles, paper, yarn, adhesives, ceramics, timber, foods, composites & finished components in tension, compression, flexural or shear . Maximum frame capacities are from 20N to 20KN

In compliance with various international standards, such as ASTM, BS EN, JIS, ISO, IEC, TISI

Features

1. Panasonic servo motor drive set
2. "NTS" Load cell grade 0.05%
3. 10 Point calibration adjustment
4. High Accuracy Ball Screw
5. Force Resolution 1/500,000 FS
6. Force measurement range 0.1% to 100%FS
7. High sampling rate 10KHz.
8. Multi graph display
 - * Load vs Time
 - * Load vs Stroke
 - * Elongation vs Time
 - * Load vs Elongation
 - * Stress vs Strain
 - * Stress vs Stroke
9. Results can be colour coded for immediate pass/fail recognition.
10. Automatically sample Height measurement

Simple to use Test Setup

Limit Testing Break Testing Loop Testing Preload Setup Elongation Auto Return, Over Load Protection

Multi-control mode

- Constant speed
- Constant Displacement
- Constant Force
- Constant Stress & Strain
- Multi-step control

Applications

Metal, Plastic, Rubber, Textile, Synthetic, Wire, Cable, Food, Packaging, Autopart, AeroSpace, Woods, etc.

- Seal Strength
- Peel Test
- Bonding Test
- Tensile Strength, Yield Point
- Elongation ,Modulus
- Friction Test
- Spring Test
- Puncture Test
- Shear Test
- Tear Test
- Bending Test
- Food Texture Test
- Top Load Test

Sample Information

Sample

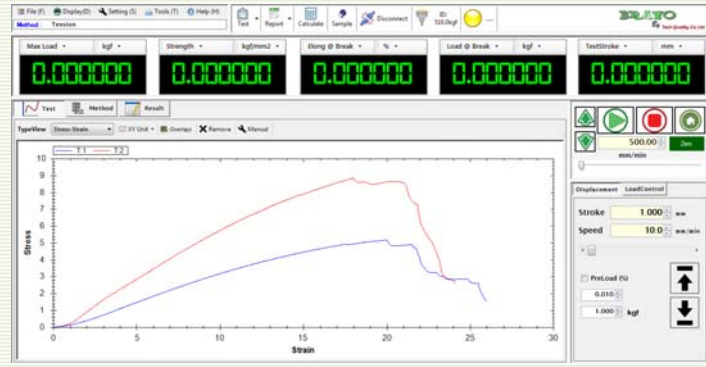
Shape: **Annular**
 Rectangular
 Annular
 Circular

Number: OK Cancel

Parameter(mm)
 Width: 10.0 Thickness: 10.0 ID: 10.0
 Gauge Length: 50.0 Diameter: 10.0 OD: 20.0

Picture:

Software & Report



Statistic Reports

Template

HOME: New, Save, SaveAs, Report, Column, Statics, Images, HeaderAdd, Remove

Template Name:

Header: Value:

Statistics menu: Min, Max, Mean, SD, COV

Excel , PDF User design Reports

Tech Quality Co.,Ltd.

Test By: Mr. Nukool Boonklam

Test Standard: ASTM D882 Thin Plastic Sheet

Temperature: 25C

Humidity: 55%

No	Date	Gauge Length (mm)	Thickness (mm)	Width (mm)	Max Load (kgf)	Strength (MPa)	Elong @ Break (%)
T1	28/5/2016	50.0000	10.0000	10.0000	5.1971	0.5206	89.5990
T2	28/5/2016	50.0000	10.0000	10.0000	6.1985	0.6178	13.3092
T3	28/5/2016	50.0000	10.0000	10.0000	5.0239	0.4926	190.4581
T4	28/5/2016	50.0000	10.0000	10.0000	5.0285	0.4931	191.2256
T5	28/5/2016	50.0000	10.0000	10.0000	6.0144	0.5888	118.4042
T6	28/5/2016	50.0000	10.0000	10.0000	6.0216	0.5905	93.9473
T7	28/5/2016	50.0000	10.0000	10.0000	5.0220	0.4925	89.2069
T8	28/5/2016	50.0000	10.0000	10.0000	4.0101	0.3933	85.4156
T9	28/5/2016	50.0000	10.0000	10.0000	6.0386	0.5920	98.4304
T10	28/5/2016	50.0000	10.0000	10.0000	5.1286	0.5200	10.5790
T11	28/5/2016	50.0000	10.0000	10.0000	6.9259	0.6792	9.1414
T12	28/5/2016	50.0000	10.0000	10.0000	7.2116	0.7172	11.6477
Min		50	10	10	4.0101	0.3933	85.4156
Max		50	10	10	7.2116	0.7172	118.5042
Mean		50	10	10	5.8429	0.5526	84.9931
SD		0	0	0	0.8152	0.0887	41.8827
COV		0	0	0	18.2148	18.2145	84.182

Multi-stage testing with BRAVO software

Program Toolbox 1.0.0.4

Directions: Compress Speed: 99mm/min Break Type: Load Shift: <= Target: 1:kgf

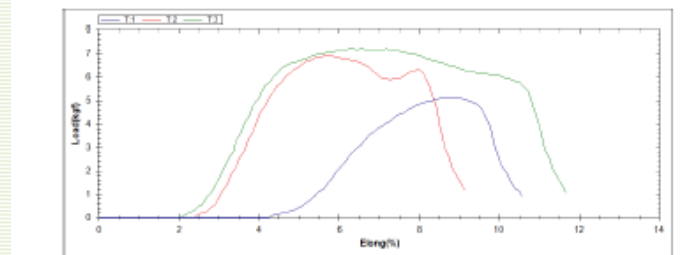
Step	Direct	Control Break Type	Speed:mm/min	Target:Unit
1	Tensile	PreLoad	1000:mm/min	1:N
2	Tensile	Load	50:mm/min	15:N
3	Tensile	Stroke	300:mm/min	29:mm
4	Tensile	Stress	20:mm/min	10:kgf/mm2
5	Compress	Load	99:mm/min	1:kgf

Multi Display & Decimal Point

Displays Toolbox

Display	Variable	Unit	Decimal
Display 1	Force	kgf	3
Display 2	Max Load	kgf	3
Display 3	RealStroke	mm	3
Display 4	Force	kgf	3
Display 5	RealStroke	mm	6

Force
 RealStroke
 Max Load
 Strain
 Stress
 TestStroke
 Load @ Break
 Elong @ Break
 Elong @ MaxLoad
 Strength



Print Export Export

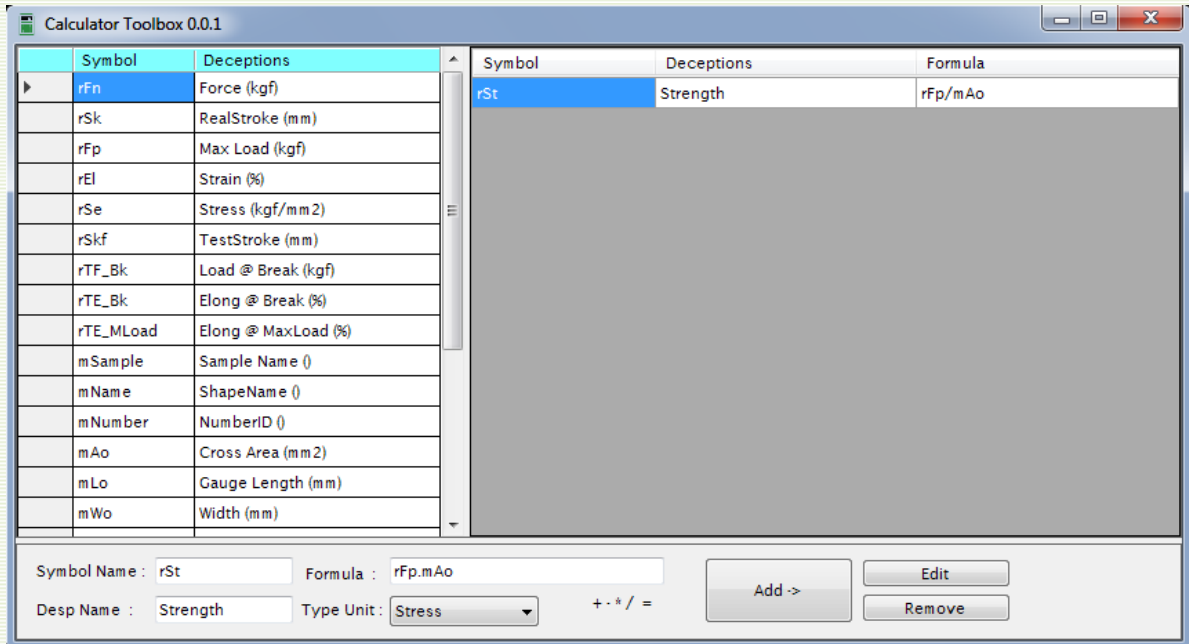
Auto test setup & load protect

Auto Zero before Test Return Speed: 100.0 mm/min

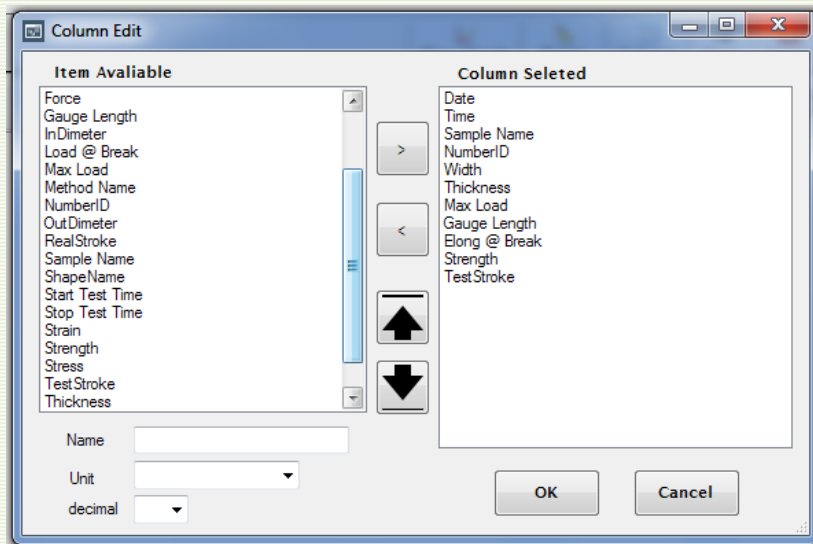
Auto Save after Test Complete Load Protect: 90 %

Auto Return to home after Test 18.00 kgf

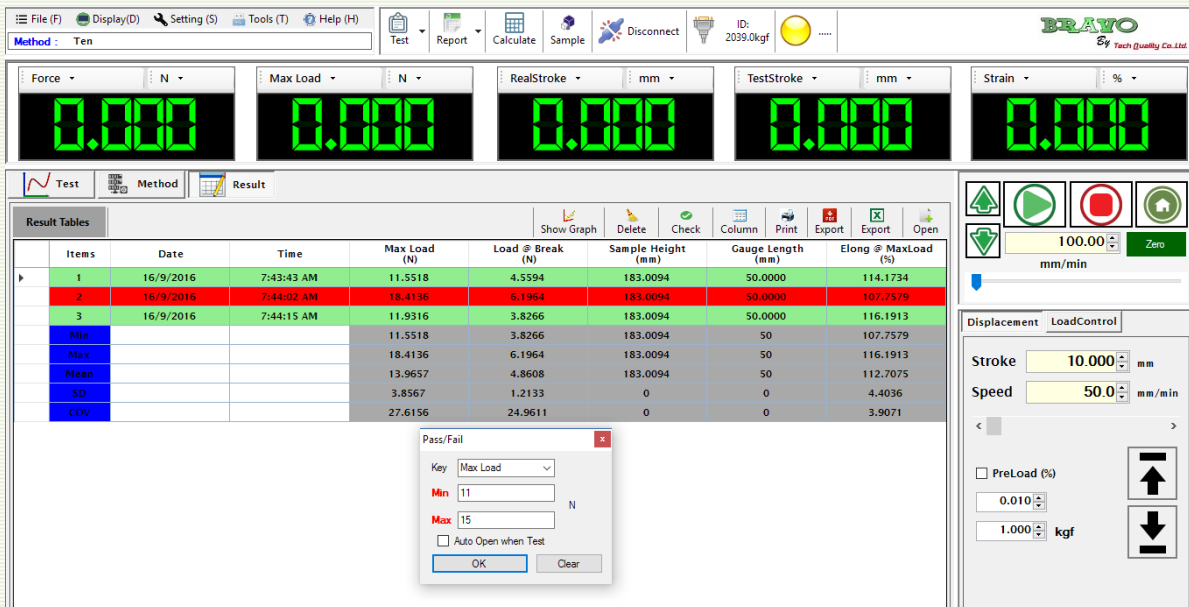
Formula Design by user



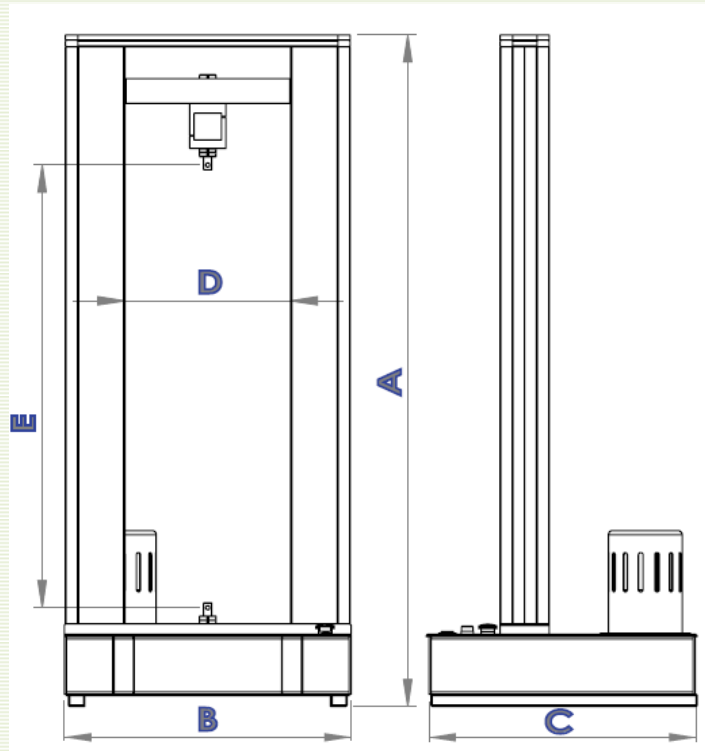
Selectable Result



Results can be colour coded for immediate pass/fail recognition.



Dimension



		mm	in
A	Standard Machine Height	1630	64.2
A	Extended Machine Height	2130	83.8
B		700	27.5
C		652	25.7
D		400	15.7
E	Standard Machine Travel	1080	42,5
E	Extended Machine Travel	1580	62.2

Ordering Information

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