

# Universal Testing Machines (UTM)

- Hydraulic and Electronic Type Universal Testing Machines available
- Models ranging from 3 kN to 2000 kN
- Comply to ASTM A370, ISO 10180, ISO 15630, DIN 488, JIS G3112
- Raw data can be exported in Excel/PDF
- Software is preloaded with Yield point, modulus, square set, reduction of area, X-axis offset, Y-axis offset, load vs display, M-value functions all in analysis screen.
- Durable and long lasting
- Minimum noise during operation

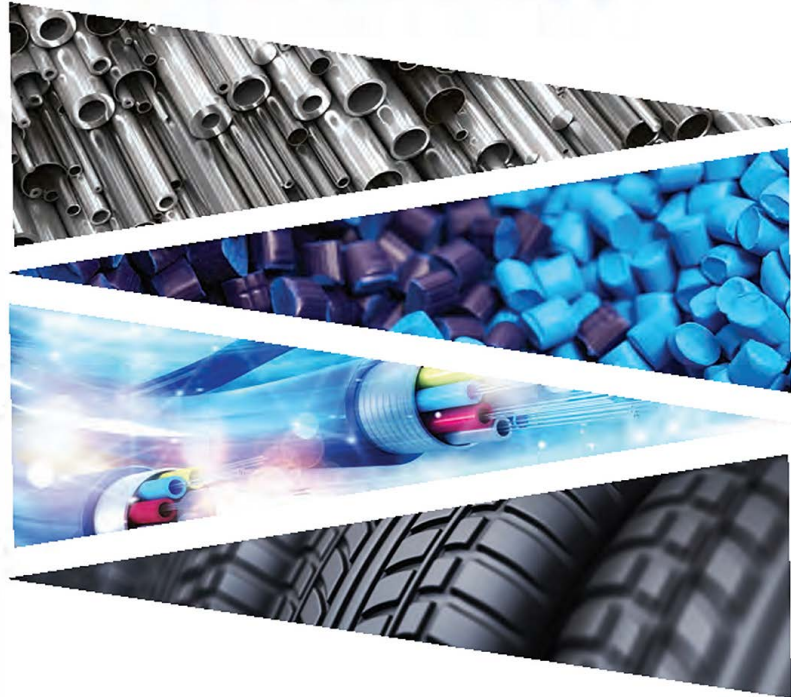


# Power and Precision in Materials Testing

Designed for manufacturers, educational institutes and QC labs

Our Universal Testing Machine range consists of 3 kN, 20 kN, 30 kN, 300 kN, 500 kN, 1000 kN and 2000 kN models. This range of rigid test frames enables the properties of physical characteristics of materials such as metal, plastic, bio, composite materials, wire, paper, rubber, small automobile parts, electronic equipment, aerospace parts, fiber etc. to be tested.

The UTM range has been designed with high quality parts which enable enhanced performance, increased reliability and ease of use.



Controller for 36-2415/05 is designed and manufactured for enabling resolving power/force ( $1/100,000$ ) which is higher than existing controllers and force control and position control up to 0.001 mm enabling the best quality in terms of fast processing speed.



Using its open type hydraulic chuck system, fitting of test samples is convenient by the operation of remote control. The open type hydraulic chuck system enables easy fitting of the test sample and prevent slipping thus provide safety to the user.



Test settings such as speed, force and position controls are controlled via software.

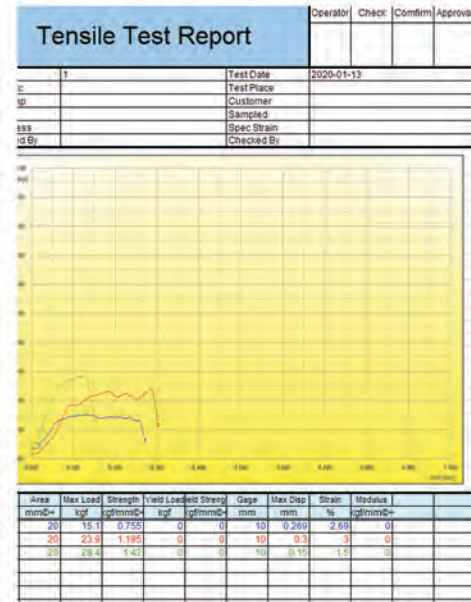
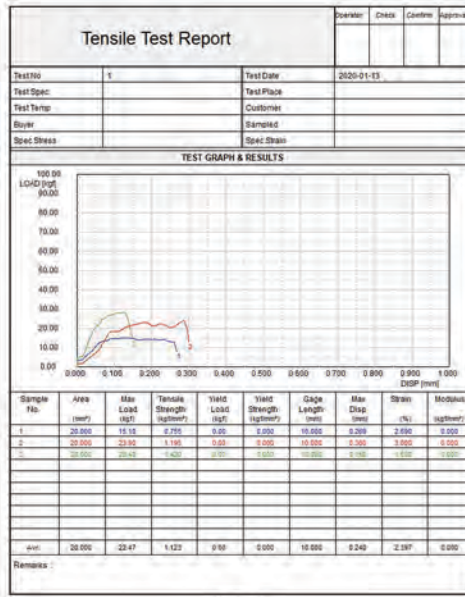


Upon user's selection, user can perform elaborate load and displacement tests by applying Hydraulic Servo Control System.



# Software

Software for the UTM Series enables users to know intrinsic characteristics of various materials such as stress, strain, modulus, yield point etc. These become the main measure of material property tests and material property such as tensile, compression, bend, cyclic and keeping test.



# Models



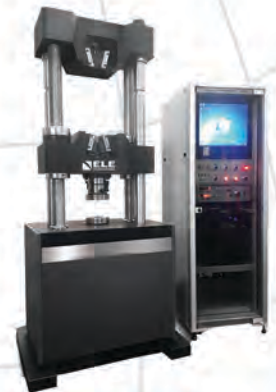
**36-2415/05 3 kN**  
Used for films, tape or thin wire. Can also be used for testing of paper, rubber, sponge and adhesives.



**36-2416/05 20 kN**  
Used for plastics, wood, tapes, cords/straps etc. Our smallest and lightest dual column structure UTM. Perfect for educational purposes and most plastic manufacturers. It takes up little space compared to the bigger UTMs and is very compact.



**36-2417/05 30 kN**  
**36-2423/05 50 kN**  
**36-2424/05 100 kN**  
**36-2418/05 300 kN**  
Used for metals and heavy-duty straps and cords with high breaking forces. These models are excellent for testing on stronger materials and some concretes can also be tested on the 300 kN



**36-2419/05 500 kN**  
**36-2420/05 1000 kN**  
**36-2421/05 2000 kN**  
Used for metals, concretes, wire etc. Our more powerful models which can withstand heavier material testing.



## Electronic Type Universal Testing Machines

Part number	36-2415/05	36-2416/05	36-2417/05	36-2423/05	36-2424/05	36-2418/05
Frame capacity	300 kgf (3kN)	2000 kfg (20 kN)	3000 kgf (30kN)	5000kgf (50kN)	10,000 kgf (100kN)	30,000 kgf (300kN)
Force range	2 Steps	4 Steps				
Force resolution	1/100,000					
Stroke resolution	0.001 mm					
Column type	Single	Dual				
Controller	LCD Digital Indicator					
Transfer screw	Ball screw/ Guide bar					
Crosshead speed	0.01 mm ~ 500 mm/min					
Weight	70 kg	400 kg	400kg	400kg	750kg	900 kg

## Hydraulic Type Universal Testing Machines

Part number	36-2419/05	36-2420/05	36-2421/05
Frame capacity	500 kN	1000 kN	2000 kN
Column style	2 post	4 post	
Force resolution	1/100,000		
Stroke resolution	0.001 mm		0.001 mm
Load range	2 steps		
Tensile - Max tensile distance	650 mm	870 mm	1200 mm
Tensile - Grip for round bar	Ø6 ~ Ø15, Ø14 ~ Ø26, Ø25 ~ Ø40 Length 90mm	Ø10~Ø25, Ø25~Ø35, Ø35~Ø60 Length 110mm	Ø10 ~ Ø20, Ø20 ~ Ø35, Ø35 ~ Ø50, Ø50 ~ Ø65 Length 110mm
Tensile - Grip for plate bar	0~15, 15 ~ 40 / Wide : 60, Length 90mm	0~30, 30~60 / Width : 70, Length 110mm	10~35, 35~70 / Wide : 90, Length 160mm
Tensile - Grip for length	90 mm	110 mm	160 mm
Compression - Test stroke	475 mm	600 mm	830 mm
Compression - Dia plate	Ø160 mm		Ø180 mm
Bending test - Bending distance	50 ~ 450 mm	50 ~ 450 mm	50 ~ 500 mm
Bending test - Punch tips radius (r)	25		
Bending test - Punch width	150		
Bending test - Roller diameter	Ø50		Ø70
Max ram stroke	200 mm		
Cross head speed	400 mm/min		
Cross head motor	1/40, 0.4kW		1/30, 0.75kW
Test speed	0.5 ~ 80mm/min		
Hydraulic pump capacity	2.7 cc	4.4 cc	7 cc
Total weight	2200 kg	3500 kg	7500 kg