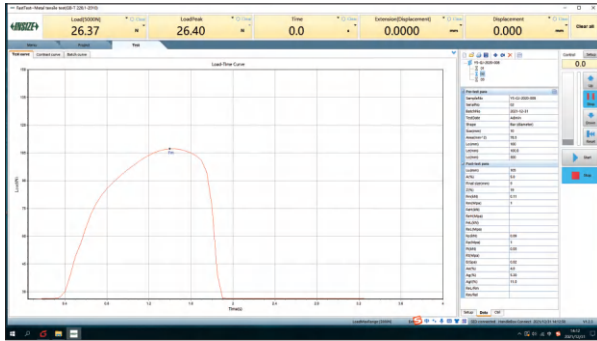


# ELECTRONIC UNIVERSAL TESTING MACHINES



computer and software (included)



flat jaws (included)



V-shaped jaws (included)



UTM-E50

- For testing and researching the mechanical properties of metals, ceramics, plastics, rubber and composite materials
- For research and quality control of mechanical properties of materials for a wide range of products such as mechanical components, electronic components, food packaging materials, chemical fibres, films and new energy batteries

## SPECIFICATION

Code	UTM-E10	UTM-E20	UTM-E30	UTM-E50
Max. test force	10kN	20kN	30kN	50kN
Accuracy class	class 0.5			
Accuracy of test force	±0.5% of indicated value			
Range of test force	0.2%~100%FS			
Resolution of test force	1/500000FS			
Crossbeam displacement accuracy	±0.5% of indicated value			
Crossbeam displacement resolution	0.025µm			
Range of speed adjustment	0.001~500mm/min			
Accuracy of crossbeam speed	±1% of the set value (speed<0.5mm/min) ±0.1% of the set value (speed≥0.5mm/min)			
Range of force control speed	0.005~5%FS/s			
Accuracy of crossbeam speed	±1% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s)			
Compression fixture	Ø100mm	Ø100mm	Ø100mm	Ø100mm
Wedge tension fixture	flat jaw: 0~7mm	flat jaw: 0~7mm V-jaw: Ø4~Ø9mm	flat jaw: 0~7mm V-jaw: Ø4~Ø9mm	flat jaw: 0~14mm V-jaw: Ø4~Ø14mm
Effective test width *	400mm	440mm	440mm	440mm
Vertical test space *	1030mm	970mm	970mm	970mm
Effective compression height *	800mm	700mm	700mm	700mm
Dimension (W×D×H)	715×500×1680mm	820×620×1880mm	820×620×1880mm	820×620×1880mm
Weight	230kg	350kg	350kg	350kg
Power supply	AC 220V, 50Hz, 0.4kW~1kW			

\* Can be customized according to test requirements

To be continued

Continued from previous page

### SPECIFICATION

Code	UTM-E100	UTM-E200	UTM-E300	UTM-E600
Max. test force	100kN	200kN	300kN	600kN
Accuracy class	class 0.5			
Accuracy of test force	±0.5% of indicated value			
Range of test force	0.2%~100%FS			
Resolution of test force	1/500000FS			
Crossbeam displacement accuracy	±0.5% of indicated value			
Crossbeam displacement resolution	0.025µm			
Range of speed adjustment	0.001~500mm/min			0.001~250mm/min
Accuracy of crossbeam speed	±1% of the set value (speed<0.5mm/min) ±0.1% of the set value (speed≥0.5mm/min)			
Range of force control speed	0.005~5%FS/s			
Accuracy of crossbeam speed	±1% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s)			
Compression fixture	Ø160mm	Ø150mm	Ø150mm	Ø200mm
Wedge tension fixture	flat jaw: 0~20mm V-jaw: Ø8~Ø26mm	flat jaw: 0~30mm V-jaw: Ø8~Ø36mm	flat jaw: 0~30mm V-jaw: Ø8~Ø36mm	flat jaw: 0~30mm V-jaw: Ø8~Ø46mm
Effective test width *	600mm	600mm	600mm	750mm
Vertical test space *	1250mm	1000mm	1000mm	1100mm
Effective compression height *	700mm	600mm	600mm	650mm
Dimension (W×D×H)	1070×855×2180mm	1070×920×2550mm	1070×920×2550mm	1140×1580×2980mm
Weight	1000kg	1500kg	1500kg	5000kg
Power supply	AC380V, 3Ø, 50Hz, 2kW~5kW			

\* Can be customized according to test requirements

### SPECIFICATION OF LARGE DEFORMATION EXTENSOMETER (OPTIONAL)

Code	UTM-EY1	UTM-EY2
Range of deformation	10~800mm	
Accuracy of deformation	±1%	
Resolution of deformation	0.01mm	0.004mm
Type of blade	flat blade	
Range of clamp	thicknesses<10mm, width<30mm	

### STANDARD DELIVERY

Main unit	1 pc
Control box	1 pc
Measuring software	1 pc
Computer	1 pc
Printer	1 pc
Compression fixture	1 set
Wedge tension fixture	1 set

### OPTIONAL ACCESSORY

Fixture	UTM-F series (customized, selection of specifications according to test requirements)
Extensometer	UTM-EX series (customizable)
Video extensometer	UTM-M series
Large deformation extensometer	UTM-EY series (customizable)
Security door	customized, available in plexiglass or wire mesh



large deformation extensometer (optional)

# HIGH AND LOW TEMPERATURE TEST CHAMBERS FOR ELECTRONIC UNIVERSAL TESTING MACHINES



electronic universal testing machine is optional

UTT-M63-E50

31

- For **UTM-E□□□** electronic universal testing machines
- For tensile, compression, bend, shear tests in high and low temperature environment

## SPECIFICATION

Code	for UTM-E10	UTT-M03-E10	UTT-M33-E10	UTT-M63-E10
	for UTM-E50	UTT-M03-E50	UTT-M33-E50	UTT-M63-E50
	for UTM-E100	UTT-M03-E100	UTT-M33-E100	UTT-M63-E100
Temperature range		(room temperature+10)~300°C	-30~300°C	-60~300°C
Temperature accuracy *		±1°C		
Temperature fluctuation *		±0.5°C		
Temperature uniformity *		≤2°C		
Temperature resolution		0.1°C		
Cooling system		no	compressor or liquid nitrogen	
Cooling time (room temperature@25°C)			1~2°C/min (no-load)	
Warming up time		1~3°C/min (no-load)		
Temperature control		PID automatic temperature control		
Heating system		magnesium powder heating tube		
Aperture size		Ø50mm		
Chamber dimension **		240×430×530mm (suitable for electronic universal testing machines with column spacing of 400mm and above)		
Power supply		AC 220V, 60Hz		
Total power		1.8kW	2.2kW	2.8kW

\*The applicable range of temperature accuracy, uniformity and fluctuation is Ø100×200mm

\*\* Customized according to **UTM-E□□□** electronic universal testing machine and customer requirements



## ELECTRONIC UNIVERSAL TESTING MACHINES (ADVANCED TYPE)



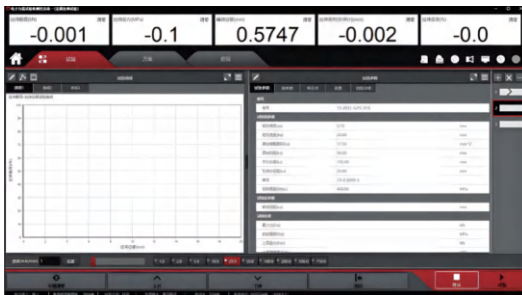
UTM-X010

wired hand control box  
(included)

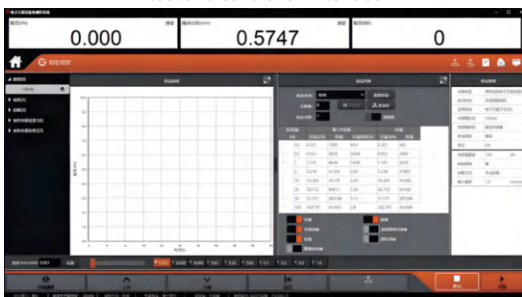


- Equipped with a variety of test software, can be for metal, ceramics, plastics, rubber and composite materials and other related mechanical properties of the test and research
- Can be used for research and quality control of mechanical properties of various products such as mechanical parts, electronic parts, food packaging materials, chemical fibres, films, new energy batteries and so on
- The rigidity of the host, loading speed and load, deformation measurement accuracy, data reliability, adoption rate and closed-loop control rate are excellent

test interface



test and calibration interface



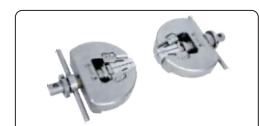
fully automatic  
extensometer **(optional)**  
(class 0.5 high-precision  
fully-automatic  
extensometer with a wide  
measuring range for  
automatic testing and full  
strain measurement)



security door **(optional)**



compression fixture **(optional)**



tensile fixture **(optional)**

To be continued

Continued from previous page



high and low temperature environment box (optional)



constant temperature and humidity box (optional)



high temperature furnace (optional)



high precision axial extensometer (optional) (a variety of scales can be selected to fully meet the requirements of variety of materials, the accuracy meets class 0.5)



width gauge (optional) (widely used for r-value and poisson's ratio measurements, meets the requirements of ASTM E517 and ISO10113)

## SPECIFICATION

Code	UTM-X001	UTM-X005	UTM-X010	UTM-X050	UTM-X100	UTM-X300
Max. test force	1kN	5kN	10kN	50kN	100kN	300kN
Accuracy class	class 0.5					
Accuracy of test force	±0.5% of indicated value					
Range of test force	0.2%~100%FS					
Test force resolution	0.002N	0.02N	0.02N	0.2N	0.2N	0.5N
Crossbeam displacement accuracy	±0.1% of indicated value					
Crossbeam displacement resolution	0.1µm					
Velocity accuracy	±0.1% of indicated value					
Range of speed adjustment	0.001~1000mm/min			0.001~800mm/min		0.001~500mm/min
Effective test width	420mm			600mm		1450mm
Vertical test space	standard model	1200mm			1255mm	
	heightened 250mm (optional)	1450mm			1505mm	
	heightened 500mm (optional)	1700mm			—	
Dimension (W×D×H)	standard model	748×582×1600mm			1100×724×2160mm	
	heightened 250mm (optional)	748×582×1850mm			1100×724×2410mm	
	heightened 500mm (optional)	748×582×2100mm			—	
Weight	standard model	160kg			610kg	
	heightened 250mm (optional)	185kg			660kg	
	heightened 500mm (optional)	210kg			—	
Power supply	AC220V, 50Hz, 1kW			AC380V, 3Ø, 50Hz, 4kW	AC380V, 3Ø, 50Hz, 4.5kW	AC380V, 3Ø, 50Hz, 6kW
Environment requirements	temp: 5~40°C, humidity level: 5~85%RH, non-condensing no vibration					

## STANDARD DELIVERY

Main unit	1 pc
Control box	1 pc
Computer	1 pc
Software	1 pc
Printer	1 pc

## OPTIONAL ACCESSORY

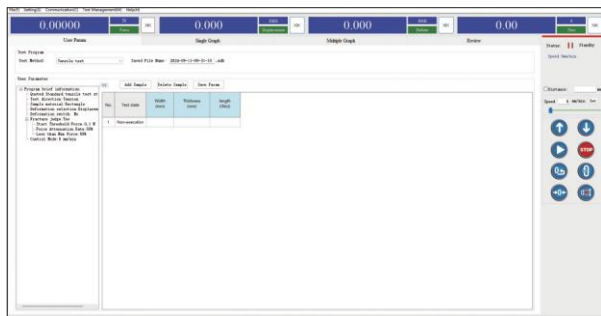
Security door *	customizable
Fixture *	
Extensometer *	
Width gauge *	
High temperature furnace *	
Constant temperature and humidity box *	
High and low temperature environment box *	

\* Selection of specifications according to test requirements

# ELECTRONIC UNIVERSAL TESTING MACHINES



computer and software (included)



UTM-Z500

- Applicable to metal, non-metal and composite materials for tensile, compression, bending and other mechanical properties test analysis and analytical research
- Automatically obtain the maximum force, breaking force, yield strength, upper and lower yield strength, tensile strength, compressive strength, elongation at break, tensile modulus of elasticity, bending modulus of elasticity and other test data
- Test standards and test parameters can be managed and imported or exported test standards
- Overload emergency shutdown protection device, up and down travel limit protection device
- Crossbeam movement collision mitigation function

## SPECIFICATION

Code	UTM-Z50	UTM-Z500	UTM-Z1000	UTM-Z2000	UTM-Z5000
Max. test force *	50N	500N	1000N	2000N	5000N
Accuracy class	class 0.5				
Range of test force	0.4%~100%FS				
Accuracy of test force	±0.5% of indicating value				
Resolution of test force	1/300000FS				
Accuracy of displacement	±0.5% of indicating value				
Resolution of displacement	0.2µm				
Range of crossbeam speed	0.001~1000mm/min				
Accuracy of crossbeam speed	±0.5% of indicating value				
Range of force control speed	0.05%~10%FS/s				
Accuracy of force control speed	±0.5% of indicating value				
Effective tensile travel *	550mm				
Effective compression travel *	700mm				
Dimension (W×D×H)	500×380×1150mm				
Power supply	AC 220V, 50Hz				
Weight	100kg				

## STANDARD DELIVERY

Main unit	1 pc
Computer	1 set
Software	1 set
Control box	1 pc
Tensile fixture	1 set

## OPTIONAL ACCESSORY

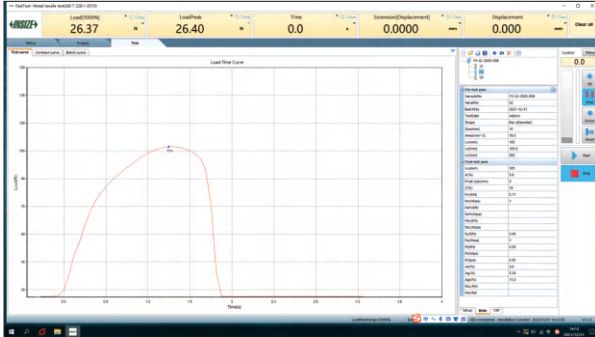
Fixture *	customized
Extensometer *	
Large deformation extensometer *	
Security cover *	

\* Can be customized according to test requirements

# ELECTRONIC UNIVERSAL TESTING MACHINES



computer and software (included)



UTM-S5KA

- For testing and researching the mechanical properties of metals, ceramics, plastics, rubber and composite materials
- For research and quality control of mechanical properties of materials for a wide range of products such as mechanical components, electronic components, food packaging materials, chemical fibres, films and new energy batteries

31

## SPECIFICATION

Code	UTM-S200A	UTM-S500A	UTM-S1KA	UTM-S2KA	UTM-S5KA
Max. test force	200N	500N	1kN	2kN	5kN
Accuracy class	class 0.5				
Accuracy of test force	±0.5% of indicated value				
Range of test force	0.2%~100%FS				
Resolution of test force	1/500000FS				
Crossbeam displacement accuracy	±0.5% of indicated value				
Crossbeam displacement resolution	0.025µm				
Range of speed adjustment	0.001~500mm/min				
Accuracy of crossbeam speed	±1% of the set value (speed<0.5mm/min) ±0.1% of the set value (speed≥0.5mm/min)				
Range of force control speed	0.005~5%FS/s				
Accuracy of constant load force	±1% of the set value (speed<0.05%FS/s) ±0.5% of the set value (speed≥0.05%FS/s)				
Vertical test space *	1120mm				
Effective compression height *	800mm				
Dimension (W×D×H)	510×510×1580mm				
Weight	150kg				
Power supply	AC220V, 50Hz, 0.4kW				

\* Can be customized according to test requirements

## STANDARD DELIVERY

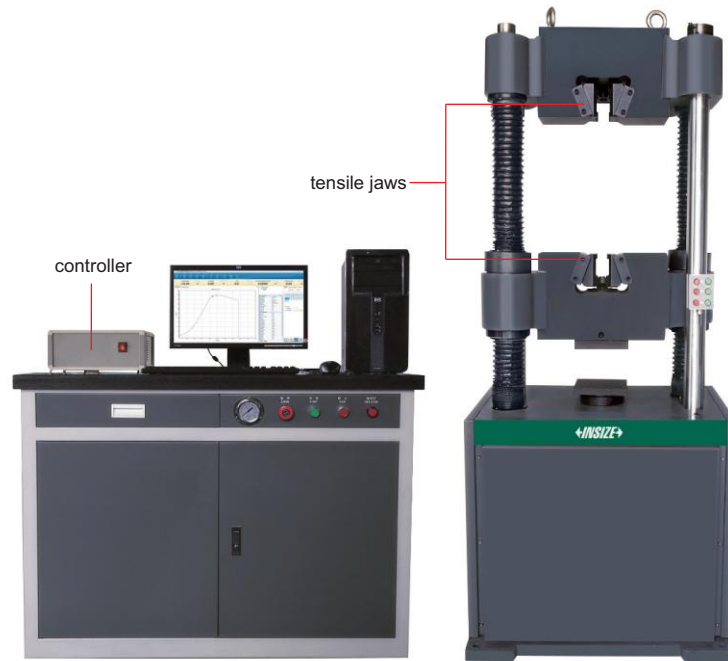
Main unit	1 pc
Control box	1 pc
Measuring software	1 pc
Computer	1 pc
Printer	1 pc
Compression fixture (except UTM-S200A)	1 set
Tension fixture	1 set

## OPTIONAL ACCESSORY

Fixture	UTM-F series (customized, selection of specifications according to test requirements)
Extensometer	UTM-EX series (customizable)
Video extensometer	UTM-M series
Large deformation extensometer	UTM-EY series (customizable, page 948)
Security door	customized



## HYDRAULIC UNIVERSAL TESTING MACHINES



UTM-H300B

- For tensile, compression, bend, shear tests of metal and non-metal materials

### SPECIFICATION

Code	UTM-H300B	UTM-H600B	UTM-H1000B	UTM-H2000B	UTM-H3000B	
Max. test force	300kN	600kN	1000kN	2000kN	3000kN	
Accuracy	±1%					
Test force measurement range	2%~100%FS					
Resolution of test force measurement	1/300000 of Max. test force (same resolution all the way)					
Deformation measurement device	extensometer					
Deformation measurement range	1%~100%FS					
Deformation measurement accuracy	±1%					
Deformation measurement resolution	1/300000					
Displacement accuracy	±1%					
Displacement resolution	0.01mm					
Displacement travel	200mm					
Max tensile space (including piston stroke)	600mm	600mm	680mm	600mm	900mm	
Max compression space (including piston stroke)	500mm	500mm	560mm	500mm	800mm	
Transmission mode	chain drive					
Safety protection device	software protection and mechanical limit protection					
Control function	special software, closed-loop of stress, strain and velocity					
Clamping range of round sample	Ø10~32mm	Ø13~40mm	Ø13~60mm	Ø20~70mm	Ø25~80mm	
Clamping range of flat sample	0~15mm	0~15mm*	0~20mm**	0~40mm	0~80mm	
Upper and lower pressure plate size	Ø188mm	Ø188mm	Ø208mm	Ø208mm	Ø208mm	
Bending branch roll width	140mm					
Total power	2.5kW	3.0kW	3.0kW	3.75kW	5.5kW	
Power supply	380V, 50Hz					
Dimension (mm)	host	800×620×1900	820×650×2000	940×780×2250	1100×760×3000	1250×930×3550
	oil source	1140×600×855				
Weight	2T	2.2T	3T	7.5T	12.6T	

\*Customizable 0~30mm

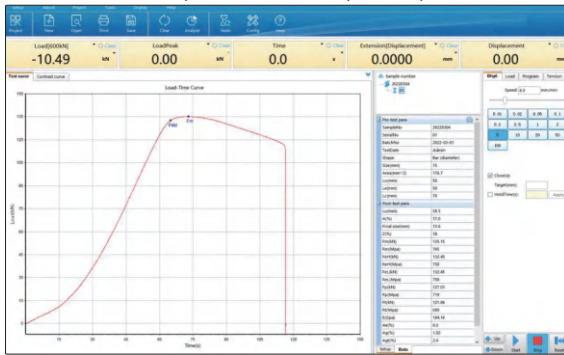
\*\*Customizable 0~40mm

To be continued



Continued from previous page

computer and software (included)



### STANDARD DELIVERY

Main unit	1 pc
Electro hydraulic servo oil source	1 pc
Electro hydraulic servo valve	1 pc
High pressure oil pump	1 pc
Oil pressure sensor	1 pc
Control box	1 pc
Extensometer	1 pc
Computer	1 pc
Measuring software	1 set
Printer	1 pc
Tensile fixture	1 set
Compression fixture	1 set



acrylic safety shield (optional)



steel wire safety shield (optional)

### OPTIONAL ACCESSORY

Acrylic safety shield	UTM-H-COVER1
Steel wire safety shield	UTM-H-COVER2

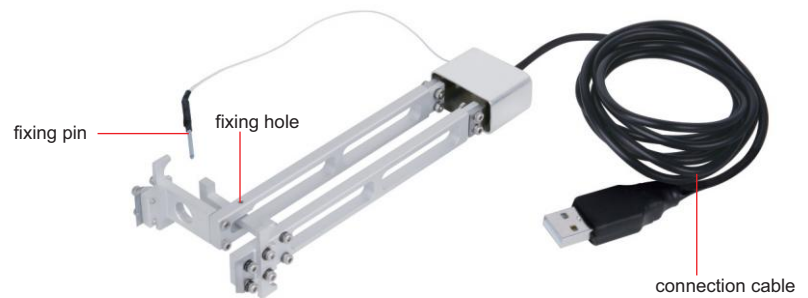
31

## EXTENSOMETERS

- For universal testing machines

### SPECIFICATION

Code	Gauge length	Deformation
UTM-EX25-5	25mm	5mm
UTM-EX25-10	25mm	10mm
UTM-EX25-25	25mm	25mm
UTM-EX50-5	50mm	5mm
UTM-EX50-10	50mm	10mm
UTM-EX50-25	50mm	25mm
UTM-EX100-5	100mm	5mm
UTM-EX100-10	100mm	10mm
UTM-EX100-25	100mm	25mm
UTM-EX200-5	200mm	5mm
UTM-EX200-10	200mm	10mm
UTM-EX200-25	200mm	25mm
UTM-EX-B	large deformation, customized according to the workpieces	



UTM-EX50-10