



# Electronic Universal Strength Machine

## Scope of application

It is used to test the mechanical properties of various textiles such as stretching, tearing, constant elongation, constant load, elasticity, suture slippage and peeling.



## Instrument Features

1. High-rigidity column load frame configuration, precision pre-loaded ball screw.
2. Automatic distance positioning function.
3. AC servo drive device, high-resolution digital closed-loop controller.
4. Test modular design and open data management.
5. The equipment comes with a thermal printer to quickly output test results.

## Technical Parameter

1. Measuring force range: 1%~100% of full scale

Model	ADL-MT250	ADL-MT500
Full range	2500N	5000N

2. Minimum scale value: 0.01N Force measurement accuracy:  $\leq \pm 0.2\% F \cdot S$
3. Stretching speed: (0.01~1000)mm/min digital speed regulation, error  $\leq \pm 1\%$
4. The maximum stroke of the instrument: 600mm
5. Elongation resolution: 0.01mm
6. Specimen clamping: pneumatic clamping or manual clamping
7. Power supply: AC220V $\pm 10\%$  50Hz 600W
8. Dimensions: (550 $\times$ 530 $\times$ 1400)mm (host L $\times$ W $\times$ H)
9. Weight: 74kg (standard configuration)
10. Sampling frequency: 2000Hz

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## More Pictures



## Optional Standard Accessories

Name and specification	Qty
Main machine	1
Air compressor	1
Power cable	1
Load cell of 5000N	1
Load cell of 2500N	1
Load cell of 1000N	1
Load cell of 200N	1
Pneumatic universal clamp	2
Software	1
Preload clamp	1
Fuse	1
Wrench	1
Foot	1

## Related Standards

Examples of material testing machines used in textile testing standards

GB/T3923.1/2, FZ/T70006, FZ/T70007, FZ/T01085, GB/T13772.1/2/3, FZ/T20019, FZ/T01030, ISO ASTM JIS BS DIN etc.



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## Yarn & Thread

ASTM D 204 Test methods for sewing thread.  
 ASTM D 434 Resistance to slippage of yarns.  
 ASTM D 1578 Breaking strength of yarn in skein form.  
 ASTM D 2256 Tensile properties of yarn, single strand method.  
 ASTM D 2653 Tensile properties of elastomeric yarn.  
 ASTM D 3106 Permanent deformation of elastic yarns.  
 ASTM D 2731 Elastic properties of elastomeric yarn.  
 ASTM D 4034 Determination of yarn slippage for upholstery.  
 ASTM D 5344 Extension force of partially orientated yarn.  
 ASTM D 6720 Recoverability of stretch yarns.  
 BS 1932-1 Knot strength of yarn.  
 BS 1932-2 Loop strength of yarn.  
 BS 4650 Tensile strength of yarns.  
 BS 4674 Tensile strength of yarns.  
 BS 6372 Breaking strength of yarn, skein method.  
 BS EN ISO 2062 Single-end breaking force and elongation.  
 DIN 53834-2 Tensile tests of yarn in oven dried state.  
 DIN 53835-2 Tensile loading of elastomeric yarns at constant strain limits.  
 DIN 53835-3 Tensile loading of yarn between constant strain limits.  
 DIN 53835-4 Tensile loading of yarns between constant force limits.  
 DIN 53842-1 Yarn knot tensile test.  
 DIN 53843-1 Tensile test of yarn loops.  
 EN ISO 2062 Tensile strength of yarns.  
 ISO 2060 Tensile strength of yarns.  
 ISO 2062 Breaking strength of yarns.  
 ISO 3341 Breaking force of textile glass yarns.  
 ISO 6939 Tensile test of yarn from packages, skein method.  
 ISO 9073-3 Tensile strength and elongation of yarn.  
 P70 Tensile strength of sewing thread

## Fabric

ASTM D 413 Adhesion tests of bonded fabrics.  
 ASTM D 434 Seam slippage strength of fabrics.  
 ASTM D 751 Standard test method for coated fabrics.  
 ASTM D 885 Test methods for tyre cord fabrics.  
 ASTM D 1117 Standard test methods for nonwoven fabrics.  
 ASTM D 1682 Tension and elongation of fabrics, strip method.  
 ASTM D 1683 Fabric failure of seams.  
 ASTM D 1775 Tension and elongation of wide elastic fabric.  
 ASTM D 2261 Tearing strength of fabric, tongue procedure.  
 ASTM D 2724 Test procedures for laminated apparel materials.  
 ASTM D 2970 Test methods for tyre cord fabric.  
 ASTM D 3107 Stretch properties of woven fabrics.  
 ASTM D 3787 Burst strength of knitted fabric.  
 ASTM D 4034 Yarn slippage in upholstery fabrics.  
 ASTM D 4851 Test methods for laminated fabrics used in roofing materials.  
 ASTM D 4964 Tension and elongation of elastic fabric.  
 ASTM D 5034 Breaking strength and elongation of fabric, grab method.  
 ASTM D 5035 Breaking force and elongation of fabric, strip method.  
 ASTM D 5278 Narrow elastic static load tests.  
 ASTM D 5446 Properties of fabrics used in inflatable restraints.  
 ASTM D 5587 Tearing strength of fabric, trapezoid procedure.  
 ASTM D 5733 Tearing strength of nonwoven fabrics, trapezoid procedure.  
 ASTM D 5735 Tearing strength of nonwoven fabrics, tongue procedure.  
 ASTM D 5822 Seam strength of inflatable restraints.  
 ASTM D 6614 Fabric stretch properties.  
 ASTM D 6479 Edge-comb resistance of woven fabrics in inflatable restraints.  
 ASTM D 6775 Breaking strength and elongation of webbing, tape and braid.  
 ASTM D 6797 Bursting strength of fabric, ball burst method.  
 BS 2543 Seam slippage of upholstery fabrics.  
 BS 2576 Breaking strength and elongation of fabrics, strip method.  
 BS 3320 Slippage resistance of yarns in woven fabric.  
 BS 3424-4 Coated fabric breaking strength and elongation.  
 BS 3424-5 Coated fabric tear strength.  
 BS 3424-6 Coated fabric burst strength, ball method.

## Attachments and Garment Embellishments

ASTM D2061 Strength test for zippers.  
 ASTM D4846 Resistance to unsnapping of snap fasteners.  
 ASTM D Shear strength of hoop and loop touch fasteners.  
 BS 4162 Button strength.  
 BS 5151 Buckle fastening strength.  
 EN 1414 Closure and opening force of fasteners.  
 EN 12242 Peel strength of attachments.  
 EN 13780 Lengthwise shear strength.  
 LTD 16 Attachment strength of bra hook and eye.

NXT 42 Attachment strength of embellishments.  
 NXT 37 Button strength.  
 NXT 37A Button attachment strength.  
 P122 Strength of buttons.  
 P11A Strength of bra wire casing.  
 P115 Security of attachments

## Fabric cont.

BS 3424-7 Coated fabrics coating adhesion.  
 BS 3424-10 Coated fabrics, determination of surface drag.  
 BS 4304 Resistance to tear, wing rip method.  
 BS 4952 Methods of test for elastic fabrics.  
 BS 5131 Seam Strength.  
 BS EN ISO 9073-4 Tear resistance of nonwovens.  
 BS EN ISO 13934-1 Tensile properties of fabrics.  
 BS EN ISO 13934-2 Tensile properties of fabrics, grab method.  
 BS EN ISO 13935-1 Seam strength, strip method.  
 BS EN ISO 13935-2 Seam strength, grab method.  
 BS EN ISO 13937-2 Tear properties of fabrics, trouser method.  
 BS EN ISO 13937-3 Tear properties of fabrics, wing rip method.  
 BS EN ISO 13937-4 Tear properties of fabrics, tongue method.  
 DIN 53356 Tongue tear tests on coated fabric.  
 DIN 53835-13 Fabric loading between constant strain limits.  
 DIN 53835-14 Knitted fabrics loading between force limits.  
 DIN 53859-4 Nonwovens tear, trouser method.  
 DIN 53859-5 Fabric tear, trapezoidal method.  
 DIN 53868 Seam slippage resistance.  
 DIN 53934 Displacement resistance of fabrics.  
 DIN EN 12332-1 Burst test, ball method.  
 EN ISO 1421 Tensile tests on coated textiles.  
 EN ISO 2411 Adhesive strength of coatings on fabrics.  
 EN ISO 4674-1 Tear tests on coated fabrics.  
 EN ISO 9073-4 Nonwovens tears, trapezoidal method.  
 EN ISO 13934-1 Fabric tensile tests, strip method.  
 EN ISO 13934-2 Fabric tensile tests, grab method.  
 EN ISO 13935-1 Fabric strip tensile tests on seams.  
 EN ISO 13935-2 Fabric grab tensile tests on seams.  
 EN ISO 13936-1 Seam opening of yarns in fabric, fixed opening.  
 EN ISO 13936-2 Seam opening of yarns in fabric, set force.  
 EN ISO 13937-2 Fabric tear, trouser method.  
 EN ISO 13937-3 Fabric tear, wing rip method.  
 EN ISO 13937-4 Fabric tear, tongue method.  
 EN 1875-3 Trapezoidal tear of coated textiles.  
 ISO 4637 Adhesive strength of rubber coating.  
 ISO 9073-3 strip tensile test for nonwovens.  
 ISO 9073-4 Tear resistance of nonwovens.  
 ISO 13936-1 Seam slippage, fixed opening method.  
 ISO 13936-2 Seam slippage, fixed opening method.  
 LTD 03 Power and recovery of stretch fabrics.  
 LTD 06 Elastic stretch and recovery.  
 LTD 07 Bra band elongation.  
 LTD 10 Comfort value of seamless garments.  
 LTD 11 Garment form load and elongation.  
 LTD 24 Seam stretchability of knitted garments.  
 P11 Fabric tensile strength.  
 P12 Seam slippage strength.  
 P13 Peel bond strength.  
 P14 Extension and modulus of elastomeric fabrics.  
 P14A Extension and modulus of stretch laces.  
 P14B Elastic properties of lycra fabrics.  
 P14C Extension and modulus of bare rubber tapes.  
 P15 Residual extension of stretch woven fabrics.  
 P15A Extension modulus and residual extension of stretch fabric.  
 P35 Baumann tear strength.  
 P42 Single tear strength.  
 P43 Breaking load and extension of woven and coated fabrics.  
 P98 Tear strength, wing rip method.  
 NXT 16 Slippage resistance.  
 NXT 21 Extension and modulus.  
 NXT 25 Wing rip tear test.  
 NXT 27 Breaking strength and elongation.  
 SL 2 Stretch test.  
 TM 177 Seam slippage.  
 TM 128 Dimensional stability.  
 TM 172 Tear, 5 highest peaks.  
 TM 264 Bond strength, 5 highest peaks.

*\*Technical Data Subject to change without notice.*

AdLab is a globally recognized brand specializing in the manufacturing and supply of high-quality laboratory equipment and textile testing instruments. With over 15 years of experience, we are committed to delivering precision-engineered solutions that meet the needs of industries such as textiles, pharmaceuticals, research laboratories, and educational institutions. Our products are designed to enhance efficiency, accuracy, and reliability in scientific and industrial applications.

## Our Skill

At AdLab, we combine expertise in precision engineering with advanced laboratory technology to create innovative and reliable testing instruments. Our team of skilled professionals continuously works on improving product designs, integrating the latest advancements in technology, and ensuring compliance with international quality standards. With a strong focus on research and development, we provide customized solutions that cater to the unique needs of our customers worldwide.

## Our Products

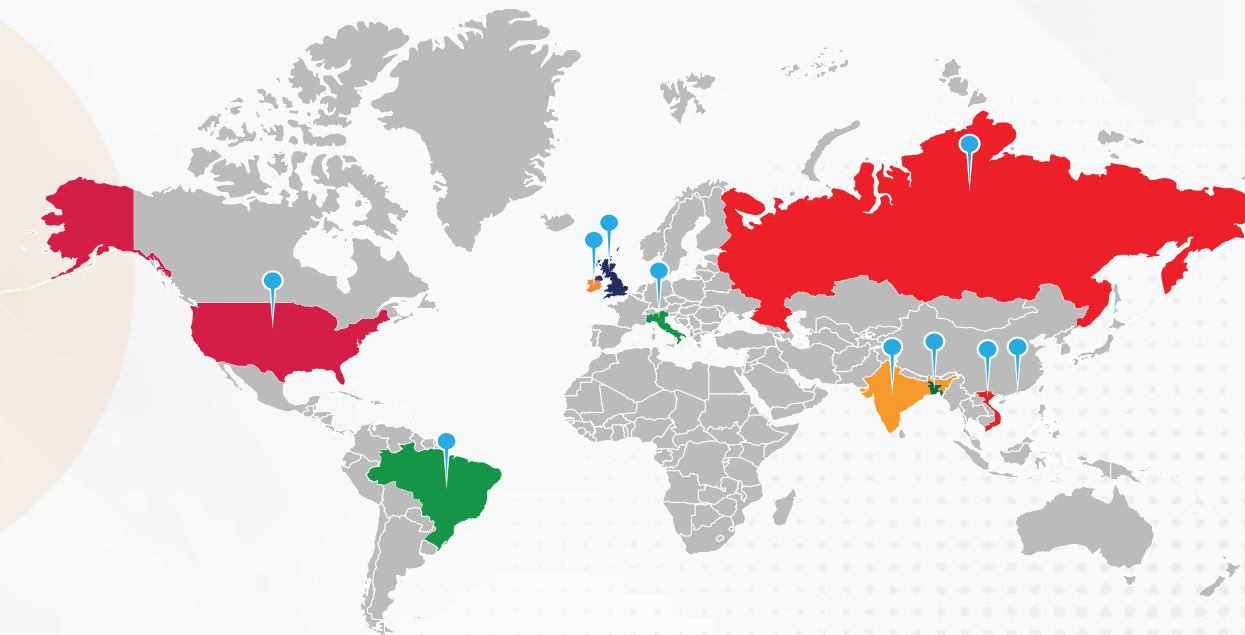
AdLab offers a wide range of high-quality laboratory and textile testing instruments, including Yarn & Fiber Testing Instruments, Laboratory Fume Hood Chambers, Ovens & Incubators, Water Baths, Textile Testing Instruments, Dyeing & Finishing Machines, Ceramic Testing, Tensile Testing, Washers & Dryers, Needle Detectors, and In-House Testing Equipment. Designed for precision and efficiency, our products ensure accurate testing and reliable performance across various industries.

## Our Services

At AdLab, customer satisfaction is our top priority. We provide comprehensive support services to ensure the smooth operation of our equipment, including:

- ✓ 24/7 Technical Support Team – Our highly trained technical support team is available around the clock to assist with troubleshooting, maintenance, and operational guidance. Whether you need immediate assistance or expert advice, we are always ready to help.
- ✓ Installation & Training – We offer professional installation services and hands-on training to help users operate our equipment efficiently.
- ✓ Calibration & Maintenance – Regular calibration and maintenance services ensure that your laboratory instruments remain accurate and in optimal working condition.
- ✓ Customized Solutions – We provide tailored solutions to meet specific industry requirements, helping our clients achieve maximum efficiency in their operations.

## Global Networks



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