专业工程试验与测试解决方案提供商

国机集团 SINOMACH

SINOTEST

中机试验

Universal testing system

中国高端试验装备技术引领者

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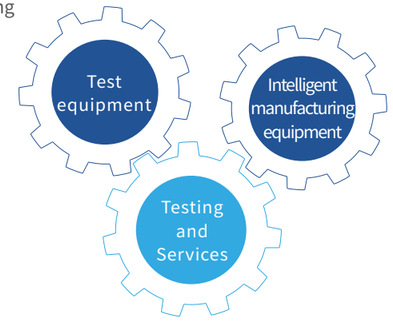
中机试验官方微信平台

COMPANY PROFILE

SINOTEST EQUIPMENT CO.,LTD Co., Ltd. (short name:SINOTEST) was founded in 1959. (formerly known as Changchun Testing Machine Research Institute of the Ministry of Machinery Industry, formerly known as Changchun Machinery Science Research Institute Co., Ltd.) is a subsidiary of China Machinery Industry Group, a Fortune 500 large state-owned enterprise. It is a supporting unit of the National Testing Machine Quality Supervision and Inspection Center and the National Testing Machine Standardization Committee. The Secretariat of the National Testing Machine Industry Society and Association is located in China Machinery Testing and is known as the "cradle of Chinese testing machine technology".It is a high-tech enterprise with perfect innovation ability in China's test equipment industry.

SINOTEST is a national level scientific and technological innovation enterprise mainly engaged in the research and development and manufacturing of "testing equipment", and was successfully selected as the "National Enterprise Technology Center" in 2021; Selected in the list of "Science and Technology Reform Demonstration Enterprises" by the State owned Assets Supervision and Administration Commission of the State Council in 2022; In 2023, it was selected for the list of "Creating world-class specialized and innovative demonstration enterprises" by the State owned Assets Supervision and Administration Commission of the State Council. The company has jointly revised nearly 160 national and industry standards for testing machines. During the 13th Five Year Plan period, I presided over and participated in a total of 61 national and industry standards. Currently, there are 234 patents, including 54 invention patents, 79 software copyrights, and 101 utility models. And has undertaken four national major scientific instrument projects and obtained national acceptance. SINOTEST continues to innovate and has acquired multiple international cutting-edge core technologies in the testing equipment industry, solving multiple national technological bottlenecks Among them, a number of key technologies such as static pressure support technology and measurement sensing technology have already taken an international leading position.

SINOTEST is a provider of engineering testing equipment and material testing solutions in China, with the strongest product innovation capabilities and a dedicated aircraft product research and development manufacturing system in the industry. It is a full industry subsidiary that covers the development of unit components, standardized product manufacturing, personalized aircraft product customization, overall laboratory construction, standardized product manufacturing, personalized aircraft product customization, and overall laboratory construction. Currently, it has formed a center and two industrial layouts, with manufacturing bases in Changchun and Wuxi. SINOTEST has always focused on the high-end equipment manufacturing field, making unremitting efforts to promote the development of China's experimental equipment technology and industry, and the rise of national industry!



Core values

Integrity, innovation, passion, joint efforts and win-win cooperation

With 60 years of material testing experiences, SINOTEST provides professional material testing solutions for users with rich technology accumulation and strong innovation ability

From standardized testing equipment to customized testing systems and series testing solutions that meet the special needs of users, we aim to build and establish a first-class domestic and internationally influential high-end brand.

MECHANICS OF MATERIALS TESTING EQUIPMENT

国机集团 SINOMACH

SINOTEST as recognized as the most powerful leading brand in experimental and testing equipment technology in China, our aim is to rely on excellent product quality, professional technical support, and comprehensive after-sales service provide users with perfect experiments test the solution.

Rich experience and advanced technology

Meet a variety of physical performance test requirements

A wide range of applications

Excellent pre-sales and after-sales service

Application area

The material test equipment of SINOTEST covers the whole system of material mechanics test, especially in the field of micro-mechanics, large-scale structural mechanics and the test under ultra-high temperature and complex environment.

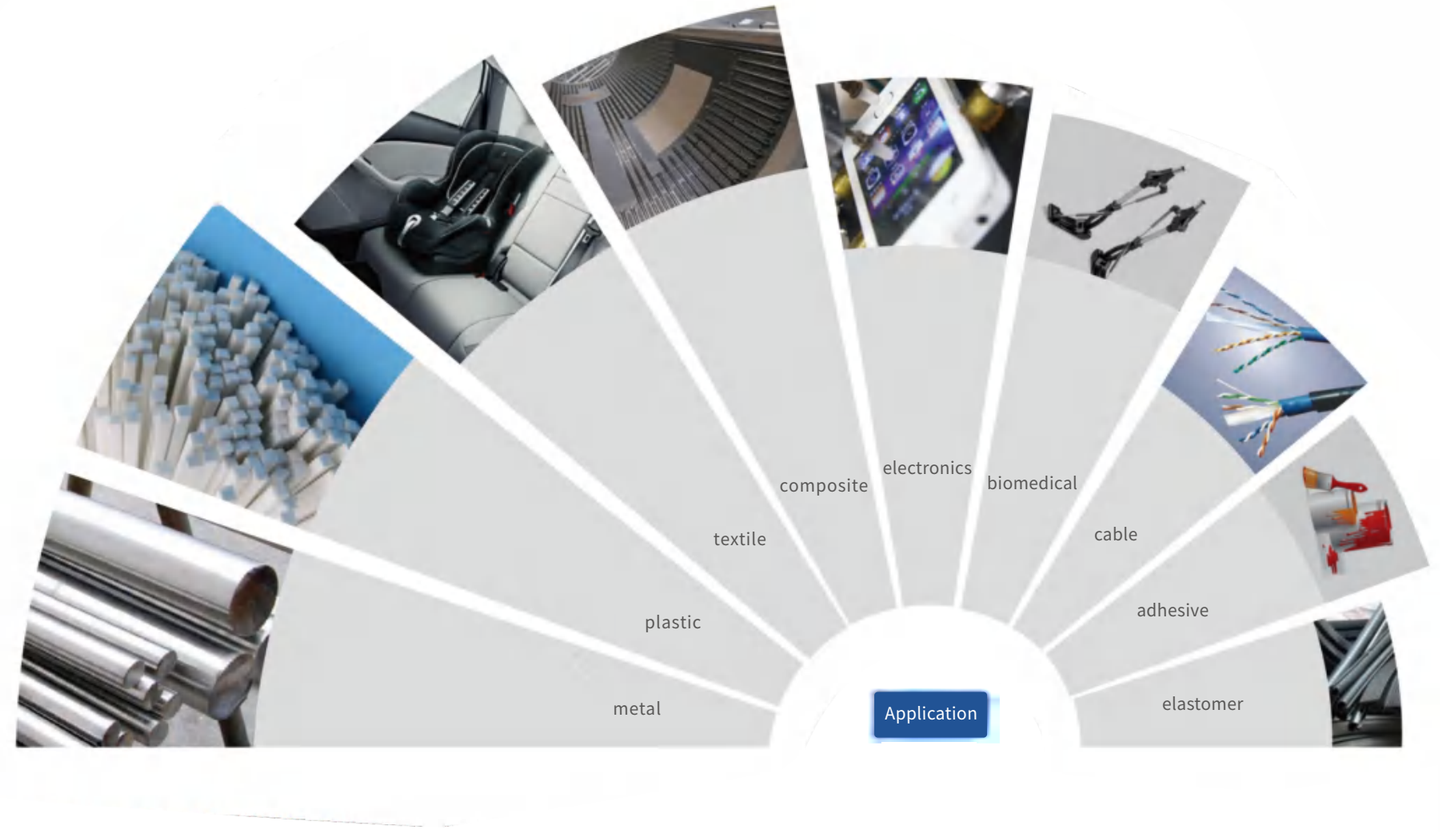
Flexible modular testing program

Full range of test accessories

Digital measurement and electronic control system

Acquisition and evaluation system

Intelligent testing software



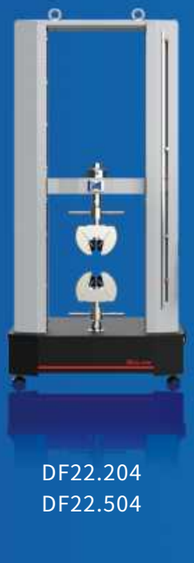
DF61 series

Df62 series

Df63 series

DF23.305
DF24.305

DF23.105
DF24.105



DF22.204
DF22.504

DF21.503

National Science and Technology Research Projects for the Seventh Five Year Plannational torch plan project
National Torch Program Project
National Science and Technology Innovation Fund Project
Special funding project from the Ministry of Science and Technology of China
National Science and Technology Conference Science and Technology Achievement Award
National Science and Technology Achievement Award
Ministry of Machinery Science and Technology Progress Award
State Science and Technology Awards
China Machinery Industry Science and Technology Award

Since the development of Chinese first electronic universal testing machine in the 1960s, our electronic UTM and hydraulic UTM products have won many national and industrial awards as national key scientific and technological projects. SINOTEST has installed thousands of universal test systems around the world for quality control& new material research. We have met different customers' various standards and requirements.

DF series electronic
universal material testing system

Product model

DFXX.XXXD Series (DOLI EDCi Controller)

DFXX.XXXT Series (self-developed TMC Controller)

01 Overview

SINOTEST DF series electronic universal testing machine has unparalleled accuracy and reliability. According to GB, ASTM, ISO and other industry standards, it can carry out tensile, compression, bending, shear, peeling, tearing and other mechanical tests on materials and components, and can calculate the maximum test force, tensile strength, bending strength, compressive strength, elasticmodulus, elongation at break, yield strength and other parameters. ners, rubber, adhesives, polymers, textiles, biomedicine, microelectronics andother fields.Applications cover high strength metals, advanced composite materials, aviation and automotive structural parts, bolts, faste.

02 Functions and advantages

Industrial leading accuracy & reliability	High stiffness frame, ensure good repeatability and reliable data	Excellent alignment ensures minimal lateral force impact under load conditions	High resolution, digital closed-loop control, smooth conversion without impact
The functions of the equipment can be extended by carrying different accessories, including automatic recognition of load sensors, extensometers, fixtures, strain measuring instruments, environmental devices, etc	electro universal test V1.0 software has all round custom function, powerful analysis & processing function, perfect report generation function. Suitable for win7 / win10 .	High precision load sensors can provide accurate measurement data for a wide range from thin sheets to full load, with intelligent compensation and nonlinear correction technology to ensure stable long-term test work and accurate results	Customers can customize special models according to the test requirements to meet the personalized needs

03 Standards and methods

According to the different characteristics of materials or products, provide a complete set of testing solutions

Fully meet the requirements of GB, ISO, ASTM, EN, JIS and other standards for material testing

Standards for metal materials

- GB/T 228.1《Metallic materials--Tensile testing at ambient temperature》
- ASTME8/E8M《Standard Test Methods for Tension Testing of Metallic Materials》
- ASTM E8《Standard Test Methods for Tension Testing of Metallic Materials》
- ISO 6892-1《Method for room temperature tensile testing of metallic materials》
- BSEN 10002-1《Tensile testing of metallic materials》
- JISZ2241《Tensile testing method for metallic materials》
- GB/T228.2《Metallic materials.Tensile testing》
- ASTM E21-09《Elevated Temperature Tension Tests of Metallic Materials》
- GB/T 7314 《Metallic materials—Compression test method at room temperature》
- GB/T 14452-93《Test Methods for Bending Mechanical Properties of Metals》
- GB/T 232 《Metallic materials.Bend test》
- GB/T 10120《Metallic materials--Stress relaxation test》
- GB/T 5027《Determination of plastic strain ratio(r-values)》
- GB/T 5028《Determination of tensile strain hardening exponent(n-values)》

Standard specification for composite material testing

- ASTM D3039《Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials》
- ASTM D5766《Standard Test Method for Open Hole Tensile Strength of Polymer Base Plate》
- ASTM C273《Standard Test Method for Shear Performance of Sandwich Core》
- ASTM C297《Test Method for Horizontal Tensile Strength of Sandwich Structures》
- ASTM D3410《Standard Test Method for Compressive Properties of Polymer Matrix Composite Materials with Shear Loading and Unsupported Working Segments》
- ASTM D6641《Standard Test Method for Measuring the Compression Performance of Polymer Matrix Composite Laminates Using Composite Load Compression (CLC) Test Fixtures》
- ASTM D6484《Standard test method for open hole compressive strength of polymer based composite laminates》
- ASTM D5467《Standard Test Method for Compressive Performance of Unidirectional Polymer Matrix Composite Materials Using Sandwich crossbeams》
- ASTM D7264《Test Method for Bending Properties of Resin Based Composite Materials》
- ASTM C393《Test Method for Bending Performance of Sandwich Structures》
- ASTMD7249《Test Method for Determining the Performance of Sandwich StructuralPanels by Bending Long crossbeams》
- ASTM D5379《Standard Test Method for Shear Properties of Composite Materials by V-Notch crossbeam Method》
- ASTM D7078《Standard Test Method for Determining the Shear Properties of Composite Materials by V-groove Rail Shear Method》
- ASTM D2344《Short crossbeam shear strength of polymer based composite laminates》
- ASTMD 5528《Standard Test Method for Type I Interlayer Fracture Toughness of ASTMD5528 Fiber Reinforced Polymer Matrix Composite Materials》
- ASTM D6671《Test Method for I-II Mixed Interlayer Fracture Toughness of Unidirectional Fiber Reinforced Polymer Matrix Composite Materials》
- ASTM D7137《Standard test method for compressive residual strength performance of polymer matrix composite panels containing damage》
- ASTM D1781《Adhesive Drum Peel Test Method》
- ASTM D3167《Test for Determining the Peel Strength of Adhesive Float Rolls》

Example of testing standards for building materials

- GB/T 50081《Test Methods for Mechanical Properties of Ordinary Concrete》
- GB/T 17657《Tensile testing method for artificial boards and decorative artificial boards》
- GB/T 21839《Test methods for steel used in prestressed concrete - Tensile test》
- GB/T 1936.1《Test Method for Tensile Strength of Wood》
- GB/T 17671《Test Method for Strength of Cement Mortar》
- GB/T 28900《Test methods for steel used in reinforced concrete - Tensile test》
- GB/T 2542《Test Methods for Wall Bricks》
- GB/T 5101《Test Method for Strength of Sintered Ordinary Bricks》
- GB/T46《Test Method for Flattening of Metal Pipes》
- GB/T 1936.2《Test Method of Flexural Modulus of Elasticity of Wood》
- JC/T 773《Fiber reinforced plastic short crossbeam method for determining interlayer shear strength》
- GB/T1457《Test method for peel strength of sandwich structure drum》
- GB/T 1942《Test method for splitting force of wood》
- GB/T 13544《Test Methods for Sintered Porous Bricks and Porous Blocks》

DF series testing machine

desktop electronic universal testing machine

Product model

DF11/2 series desktop electronic universal testing machine

01 Overview

DF11/2 series electronic universal test system is applicable to rubber, plastic materials, biological materials, foam materials, adhesives, film metal materials and Composite materials with small force value specimens for high-precision and reliable tensile, compression, bending, shear and other tests. Its force values covers 2KN-10KN. The DF11/2 series are the desktop layout, with small space and convenient operation. The design of hand control box is simple, which can meet the simple operation requirements of customers about the crossbeam. The imported servo system is used to ensure the stability and reliability of equipment operation.

02 Test solution

Rubber and plastic material tensile, compression, bending tests, biological material tensile tests, metal film material tensile tests, adhesive material peel tests, composite material tensile, shear tests.

03 Standards and methods

- GB/T16491-2008《Electronic Universal Testing Machine》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T228.1《Metallic Materials Room Temperature Tensile Test Method》
- GB/T232《Metal Materials - Bending Test Methods》
- GB/T7314《Test method for room temperature compression of metallic materials》
- GB/T528《Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties》
- GB/T1040.1《Determination of plastic tensile properties》
- GB/T2790《Test method for 180 ° peel strength of adhesives - Flexible materials vs. rigid materials》
- GB/T6344《Determination of Tensile Strength and Elongation at Break of Flexible foam Polymeric Materials》

04 Advantages and features

Desktop configuration, compact structure, convenient installation and layout

There are various types of optional fixtures that can meet the diverse testing needs of customers

Imported servo system with low working noise, providing a comfortable working environment

The design of the hand control box is minimalistEasy to operate

High precision load sensor Accuracy reaches level 0.5

High control accuracy Fast response speed

05 Technical parameter

	DF11 series	DF12 series
Host	Single column table type	DOUBLE COLUMN TABLE TYPE
Test space	single space	SINGLE SPACE
Model	DF11.102M/DF11.202M/DF11.502M DF11.103M/DF11.203M/DF11.503M	DF12.502M/DF12.103M/DF12.203M DF12.503M/DF12.104M/
Maximum test force	100N/200N/500N/ 1KN/2KN/5KN	500N/1KN/2KN/ 5KN/10KN
Test force measurement range	0.4%-100%	
Test force measurement accuracy	±0.5% of indication	
Test force resolution	1/500000	
Force control rate adjustment range	0.005～5% FS/s	
Force control rate accurac	When the speed is ＜0.05%FS/s, it’s better than±1% of the set value When the speed is ＞0.05%FS/s, it’s better than±0.5% of the set value	
crossbeam speed range	0.001～500mm/min	
crossbeam speed accuracy	better than ± 0.5%	
crossbeam displacement resolution	0.00013mm	0.00004mm
crossbeam displacement accuracy	better than±0.5%	
Constant force/displacement control range	1%～100%FS	
Constant force/displacement control accuracy	When the set value is ⩾ 10% FS, it is better than ± 0.5% of the set value	
Maximum spacing between pin holes	700mm	900mm
Test space width	/	340mm
Overall dimension（W×L×H）	635x525x1300mm	695x575x1470mm
Host weight (about)	90kg	100kg

DF series testing machine

floor type electronic universal testing machine

Product model

DF13/4 series floor type electronic universal testing machine

01 Overview

DF13/4 series electronic universal testing system is suitable for high-precision and reliable tensile, compression, bending, shear and other tests on high-strength specimens such as reinforcement materials, metal materials, composite materials, wood products, concrete, etc., with force values covering 20KN to 300KN, The DF13/4 series has a high stiffness host frame and is equipped with an imported servo controller and high-precision control system, which can achieve high-precision measurement of large force value samples. The hand control box design is simple, which can meet the customer's simple operation requirements for the host crossbeam.

02 Test solution

Metal material tensile, compression, and bending performance testing, composite material tensile, compression, and shear performance testing, fastener testing mechanical performance testing, concrete compression testing

03 Standards and methods

- GB/T16491-2008《Electronic Universal Testing Machine》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T228.1《Metallic Materials Room Temperature Tensile Test Method》
- GB/T232《Metal Materials - Bending Test Methods》
- GB/T7314《Test method for room temperature compression of metallic materials》
- GB/T3098《Mechanical Properties of Fasteners》
- GB/T50081《Standard Test Methods for Physical and Mechanical Properties of Concrete》
- ASTM D3039《Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials》
- ASTMD6641《Measurement of polymers using composite loading compression (CLC) fixturesTest Method for Compressive Performance of Composite Laminates》

04 Advantages and features

High stiffness host framework, switching between single and double spaces, meeting various types of testing needs

There are various types of optional fixtures that can meet the diverse testing needs of customers

Imported servo system with low working noise, providing a comfortable working environment

The design of the hand control box is minimalist
Easy to operate

High precision load sensor
Accuracy reaches level 0.5

High control accuracy
Fast response speed

05 Technical parameter

	DF13series			DF14series		
Host	Double column small floor type		Double column big floor type	Double column small floor type		Double column big floor type
Test space	Double space (Pull up and press down/ pull down and press up)			Single space		
Model	DF13.104 DF13.304M	DF13.504M DF13.105M	DF13.205M DF13.305M	DF14.104M DF14.304M	DF14.504M DF14.105M	DF14.205M DF14.305M
Maximum test force	10KN/30KN	50KN/100KN	200KN/300KN	10KN/30KN	50KN/100KN	200KN/300KN
Test force measurement range	0.4%-100%					
Test force measurement accuracy	±0.5% of indication					
Force control adjustment range	1/500000					
Force resolution	0.005～5% FS/s					
Force control adjustment accuracy	When the speed is ＜0.05%FS/s, it’ s better than±1% of the set value When the speed is ＞0.05%FS/s, it’ s better than±0.5% of the set value					
crossbeam speed range	0.001～500mm/min		0.001～250mm/min	0.001～500mm/min		0.001～250mm/min
Force control adjustment accuracy	Batter than ±0.5%					
crossbeam displacement resolution	0.00005mm	0.00005mm		0.00005mm	0.00005mm	
crossbeam displacement accuracy	Better than±0.5%					
Constant force/displacem-ent control range	1%～100%FS					
Constant force/displacemen tcontrol accuracy	When the set value is ⩾ 10% FS, it is better than ± 0.5% of the set value					
Maximum spacing between pin holes	950mm	950mm	900mm	1100mm	1100mm	1100mm
Test space width	400mm	600mm	580mm	400mm	600mm	580mm
Overall dimension	800x600x1890mm	1140x675x2135mm	1125x765x2380mm	800x600x1890mm	1140x675x2135mm	1125x765x2380mm
Host weight	290kg	1200kg	1600kg	290kg	1200kg	1600kg

DF series testing machine

desktop electronic universal testing machine

Product model

DF21/2 series desktop electronic universal testing machine

01 Overview

DF21/2 series electronic universal testing system is suitable for rubber and plastic materials biological materials, foam materials, adhesives, film metal materials high precision and reliable tensile testing of small force specimens such as composite materials compression, bending, shear and other tests, with force values covering 2KN-50KN.

DF21/2 series host adopts refined design, ensuring in the case of high stiffness of the host, the host size can meet the requirements of desktop style Requirements for use, smaller equipment layout space, and the use of imported servo,the system ensures the stability and reliability of equipment operation, and adopts 4.3-inch LCD large screen manual control box, convenient for customers to use the manual control box Multiple operations.

02 Test solution

Rubber and plastic material tensile, compression, bending tests, biological material tensileTesting, tensile testing of metal film materials, peeling of adhesive materials Separation testing, composite material tensile and shear testing

03 Standards and methods

- GB/T16491-2008《Electronic Universal Testing Machine》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T228.1《Metallic Materials Room Temperature Tensile Test Method》
- GB/T232《Metal Materials - Bending Test Methods》
- GB/T7314《Test method for room temperature compression of metallic materials》
- GB/T528《Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties》
- GB/T1040.1《Determination of plastic tensile properties》
- GB/T2790《Test method for 180 ° peel strength of adhesives - Flexible materials vs. rigid materials》
- GB/T6344《Determination of Tensile Strength and Elongation at Break of Flexible foam Polymeric Materials》

04 Advantages and features

Desktop configuration, compact structureConvenient installation and layout

There are many types of optional fixtures that can meet the requirements Customers have diverse testing needs

Imported servo system with low working noiseBring a comfortable working environment

High resolution and high sampling frequency, achieving high-precision and high accuracy measurement

High precision load sensor

Accuracy class 0.5

High control precision

Fast response speed

05 Technical parameter

	DF21Series	DF22Series	
Equipment	Single column	Double column	
Test space	Single space	Single space	
Model	DF21.102/DF21.202/DF21.502 DF21.103/DF21.203/DF21.503	DF22.502/DF22.103/DF22.203 DF22.503/DF22.104/DF22.204	DF22.304 DF22.504
Maximum test force	100N/200N/500N/ 1KN/2KN/5KN	500N/1KN/2KN/ 5KN/10KN/20KN	30KN/50KN
Test force measurement range	0.4%-100%		
Test force measurement accuracy	±0.5% of indication		
Test force measurement accuracy	1/1000000		
Force control speed adjustment range	0.005～5% FS/s		
Force control rate accuracy	When the speed is less than 0.05% FS/s, it is better than the set value by ± 1% When the speed is greater than 0.05% FS/s, it is better than ± 0.5% of the set value		
Crossbeam speed range	0.001～1000mm/min	0.005～1200mm/min	
crossbeam speed accuracy	Better than ±0.5%		
crossbeam displacement accuracy	0.00013mm	0.00004mm	0.00005mm
crossbeam displacement accuracy	Better than±0.5%		
Constant force/displacem-ent control range	1%～100%FS		
Constant force/displacement control accuracy	When the set value is ⩾ 10% FS, it is better than ± 0.5% of the set value		
Maximum spacing between pin holes	730mm	1060mm	1090mm
Test space width	/	440mm	460mm
Host size (W * L * H)	720x505x1300mm	790x702x1663mm	808x732x1763mm
Host weight (about)	140kg	280kg	380kg

DF series testing machine

floor type electronic universal testing machine

Product model

DF23/4 series floor type electronic universal testing machine

01 Overview

DF23/4 series electronic universal testing system is suitable for reinforcing materialsMaterials, metal materials, composite materials, wooden products, concrete Perform high-precision and reliable tensile and compressive tests on samples with equal strength values bending, shear and other tests, with force values covering 50KN-300KN, DF23/4 series with high stiffness main frame,And equipped with imported servo controllers and high-precision control systems,can achieve high-precision measurement of high strength samples, using 4.3 inches LCD large screen manual control box, convenient for customers to use the manual control box Multiple operations.

02 Test solution

Metal material tensile, compression, and bending performance testing, compositeMaterial tensile, compressive, and shear performance testing, fastener testingMechanical performance testing, concrete compression testing

03 Standards and methods

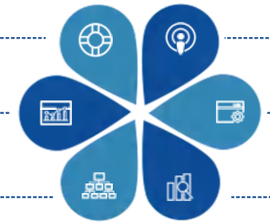
- GB/T16491-2008《Electronic Universal Testing Machine》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T228.1《Metallic Materials Room Temperature Tensile Test Method》
- GB/T232《Metal Materials - Bending Test Methods》
- GB/T7314《Test method for room temperature compression of metallic materials》
- GB/T3098《Mechanical Properties of Fasteners》
- GB/T50081《Standard Test Methods for Physical and Mechanical Properties of Concrete》
- ASTM D3039《Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials》
- ASTMD6641《Measurement of polymers using composite loading compression (CLC) fixtures
- Test Method for Compressive Performance of Composite Laminates》

04 Advantages and features

High stiffness host framework, switching between single and double spaces, meeting various types of testing needs

There are various types of optional fixtures that can meet the diverse testing needs of customers

Imported servo system with low working noise, providing a comfortable working environment with high resolution and high sampling frequency



High resolution and high sampling frequency, achieving high-precision and high accuracy measurement

High precision load sensor
Accuracy class 0.5

High control precision
Fast response speed

05 Technical parameter

	DF 23series		DF24series	
Host	Double column floor type		Double column floor type	
Test space	Double space(up-pull, bottom-press)		Single space	
Model	DF23.504 DF23.105	DF23.205 DF23.305	DF24.504 DF24.105	DF24.205 DF24.305
Maximum test force	50KN/100KN	200KN/300KN	50KN/100KN	200KN/300KN
Test force measurement range	0.4%-100%			
Test force measurement accuracy	±0.5% of indication			
Test force resolution	1/1000000			
Force control rate adjustment range	0.005～5% FS/s			
Force control rate accurac	the speed is less than 0.05% FS/s, it is better than the set value by ± 1% When the speed is greater than 0.05% FS/s, it is better than ± 0.5% of the set value			
crossbeam speed range	0.001～750mm/min			
crossbeam speed accuracy	Better than ±0.5%			
crossbeam displacement resolution	0.00005mm	0.00005mm	0.00005mm	0.00005mm
crossbeam displacement accuracy	Better than ±0.5%			
Constant force/displacement control range	1%～100%FS			
Constant force/displacement control accuracy	the set value is ⩾ 10% FS, it is better than ± 0.5% of the set value			
Maximum spacing between pin holes	1120mm	1170mm	1150mm	1220mm
Test space width	640mm	680mm	640mm	680mm
Overall dimension（W×L×H）	1180x660x2307mm	1232x860x2552mm	1180x660x2307mm	1232x860x2552mm
Host weight (about)	950kg	1550kg	950kg	1550kg

Typical
application introduction

Biomechanical performance testing

Used for biomechanical performance Mechanics testing (such as tension, compression, bending, torsion, biaxial tension& torsion) of various materials and components, including user artificial blood vessels, soft tissues, bones, joints, fixators, medical nails, etc .

Elastomer performance test

Equipped with a large deformation extensometer inside the environmental box, used for Mechanical performance testing of rubber and elastomer materials.

Composite material performance testing

Equipped with high-temperature hydraulic fixtures inside the environmental box for Mechanical performance testing of materials in high and low temperature environments.

High and low temperature environmental testing

Equipped with atmospheric furnace, environmental chamber, and vacuum (inflatable) furnace Conduct special environmental tests.

100KN high-temperature dual furnace switching testing machine

The high-temperature section is composed of a high-temperature atmospheric furnace, an atmospheric furnace frame, a high-temperature extensometer, and a fixture fixing mechanism. Two sets of atmospheric furnace supports are used to facilitate the replacement and use of the atmospheric furnace. The upper and lower outlets of the atmospheric furnace are designed with a fastening structure to facilitate the timely release of the atmospheric furnace and fixture during the high-temperature test. Another atmospheric furnace can simultaneously clamp the sample and complete the heating work of the atmospheric furnace outside the host. When the first atmospheric furnace completes the test and is pushed out, it can be directly pushed into the host to complete the test, greatly improving the test efficiency. The atmospheric furnace support is composed of an upper guide slide rail, an atmospheric furnace connection bracket, a lower guide slide rail, and a lower support leg, which is convenient for customers to push out and replace the atmospheric furnace. The lower guide slide rail of the fixture is equipped with a self-locking device. Convenient for atmospheric furnace positioning.

Fixture grip


Peel grips


vice tensile grips


Double shear tensile grips


Winding belt grips


Rope tensile grips


Geotextile grips

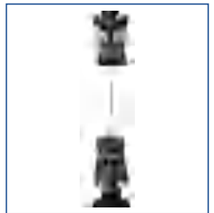

Pneumatic yarn tensile grips


Shoulder grips


Involute thread fixture


Chain tensile grips


Four point bending fixture


Scaling and stretching fixture


cutting grips


wire grips


small double row tensile grips


Cloth belt grips


Handle type tensile grips


high temperature tensile grips


high temperature compression grips


high temperature bending grips


Open-Hole Compression Test Fixture
ASTM D6484


V-NOTCH SHEAR FIXTURES
ASTM D7078


Climbing Drum Pee Fixturel
ASTM D1781


Interlaminar Fracture Toughness Fixture
ASTM D6671


V-NOTCH SHEAR FIXTURES
ASTM D5379


floating roller peel fixture
ASTM D3167


Compression shear fixture
ASTM D3410

Fixture


Sandwich Panel Shear Test Fixture
ASTM C273


SHORT-BEAM STRENGTH TEST FIXTURE
ASTM D2344


Bending fixture1
ASTM D7264


Special compression fixture
ASTM D6641


Special compression fixture
ASTM D5961B

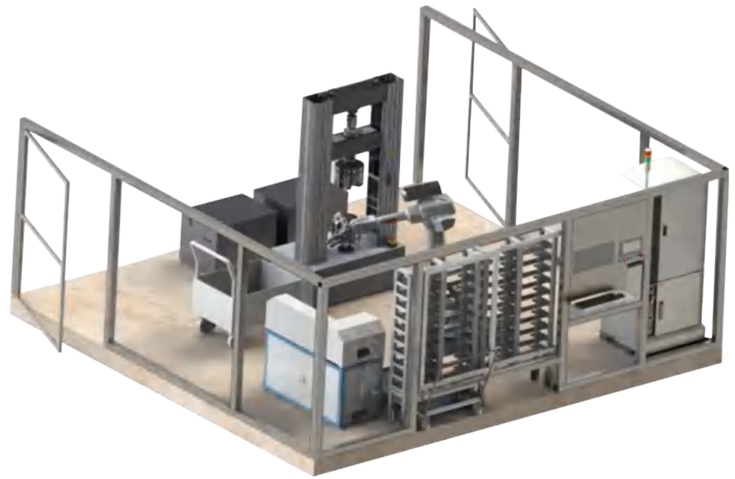

Bending fixure 2
ASTM D7905

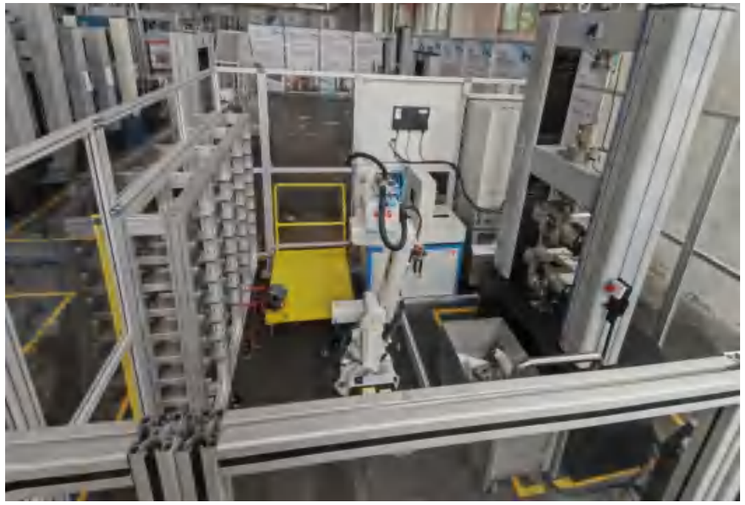

Interlaminar Fracture Toughness Fixture
ASTM D5528

Fully automatic tensile testing machine

The fully automatic tensile testing machine is suitable for conducting tensile tests on large quantities of bar specimens, steel bar specimens, and plate specimens. It is an ideal testing equipment for industrial and mining enterprises, third-party testing institutions, and other departments to conduct tensile tests on large quantities of specimens.

The fully automatic electronic universal testing machine mainly consists of an electronic universal testing machine system, a six axis industrial robot, a robot front-end fixture, a feeding system, an automatic coding system, a coding recognition system, a fully automatic measuring device, an automatic centering device, a waste car, a safety protection fence, an electrical control system, and other parts. The entire process of the experiment includes automatic sample loading, automatic sample measurement, automatic clamping, automatic testing, automatic sample placement, data processing, and display and storage of test results, all of which are automatically completed.



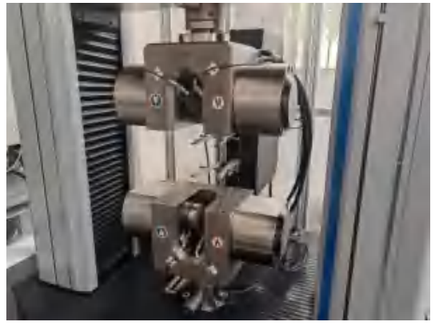


Extensometer

Fully Automatic extensometer

The fully automatic extensometer is mainly a device that automatically tracks and measures the deformation of the sample during the material tensile test process. The theme of a fully automatic extensometer is to measure axial deformation. The axial deformation measurement part of the fully automatic extensometer can automatically adjust the gauge length, clamp or release the specimen, and measure the deformation in the length direction of the specimen.

The elastic modulus of the sample can be calculated based on the measured values. Data such as elongation after fracture. The fully automatic extensometer can be equipped with a radial deformation measurement module. The radial deformation measurement module can automatically clamp and release the width direction of the sample, and measure the radial deformation of the sample. Calculate the plastic strain ratio ®, Poisson's ratio, tensile strain hardening index (n), etc. of metal sheets and strips based on the measured values.



Video extensometer

The DF-NT series video extensometers capture the deformation of samples through high-resolution industrial cameras continuous variation images during the process can measure elastic modulus, yield strength, and maximum force elongation elongation and other data. By adding a visual measurement module, strain control and bar testing can be achieved diameter measurement and other functions, as well as Poisson's ratio Various mechanics such as N value/R value, elongation after fracture, etc. Performance measurement, automatic measurement/extraction of sample diameter parameters, and automatic input for testing machine system, saving manual measurement time, supporting parallel segment control function, can effectively prevent human error deviation caused by operator operation.

Model	DF-TNT.C	DF-TNT.G
Resolution	Max. 0.5μ	Max. 0.5μ
Displacement accuracy	±1.5μm or 0.5% of indicated value (whichever is higher)	±1.5μm or 0.5% of indicated value (whichever is higher)
Measurement range	80mm	100mm
Gauge length range	＜80mm	＜100mm
Realtime sampling frequency	70fps	⩽100fps
Matching Environment	Normal temperature and high/low temperature (Environmental box -70°C to 350°C) Compressor refrigeration	High temperature atmospheric furnace (Maximum 900°C)
Accuracy level of extensometer	Class 0.5 based on ISO9513(Standard using)	

Extensometer

The extensometer can be used to measure the deformation of metal, plastic, rubber, composite materials, and ceramic lamp materials,Suitable for tensile and compression tests, directly installed in contact with the specimen, with high testing accuracy and durability.

Axial extensometer is used to measure and control the axial deformation within the gauge length of the specimen during tension and compression, and to measure parameters such as the elastic modulus of the specimen. Radial extensometer can measure the radial deformation of the specimen, and when used in conjunction with axial extensometer, it can measure parameters such as Poisson's ratio of the specimen. High temperature extensometer can be used in conjunction with high-temperature atmospheric furnaces to measure the axial deformation of specimens in high-temperature environments.

SINOTEST offers a variety of extensometer brands for customers to choose, including self-developed MCT extensometers, imported brands such as MF, Epsilon, Reliant, etc., to meet customers' diverse needs for extensometers and adapt to various complex testing environments.

Reliant measurement of Poisson's ratio

Reliant room temperature axial extensometer

Radial extensometer

Epsilon room temperature axial extensometer

MCT axial extensometer

Mf high-temperature axial extensometer

High Temperature Furnace

High temperature furnace structure: furnace shell, upper & lower end cap, heat insulation board, muffle tube, heating part, electrode plate, insulation layer, etc. The furnace shell, upper & lower end cap and heat insulation board are made of high temperature resistant stainless steel; The furnace muffle tube is made of sintered alumina high temperature resistant material. The heating part (divided into upper, middle and lower sections) is inlaid and wound in the muffle tube with Fe-Cr-Al Alloys. The furnace is heated semi naked and exposed. The oxidation resistance and service life of the furnace wire are improved. The ultra-fine ceramic wool is selected as the insulation material. The overall structure of the high temperature furnace is compact, easy to operate and has good insulation effect.

Environment chamber

The high and low temperature environmental test chamber is mainly composed of high and low temperature chamber,temperature measurement and control system, refrigeration system, etc. This device is a kind of equipment simulating high and low temperature environment in atmosphere. It mainly provides controllable high and low temperature test environment for various test devices. The device has a wide temperature setting range, it adopts the balanced temperature regulation mode and be able to adjust the ideal temperature environment, and has the characteristics of stable temperature control and good temperature uniformity. It can be widely used in Colleges and universities, scientific research institutes,quality inspection, production enterprises and other industries.

Meet the standard: • GB/T10592-2008 Technical Conditions for High and Low Temperature Test Chambers
• GB/T10589-89 Technical Conditions for Low Temperature Test Chambers

technical specification:

NO	Name	Technical Parameter
1	operating temperature range	-40 ℃~+350 ℃ (single compressor refrigeration) -70 ℃~+350 ℃ (dual compressor refrigeration) -190 ℃~+350 ℃ (liquid nitrogen refrigeration)
2	Temperature uniformity (no load)	⩽ ±2℃
3	Temperature fluctuation (no load)	±0.5℃
4	Effective space	220x220x400mm（window120-120mm） 380x300x450mm（window240-240mm）

DF series electro-hydraulic

servo hydraulic test system

Product model

DF61/DF61B Hydraulic Universal Testing Machine

01 Overview

The DF61 Series Hydraulic Universal Testing system is suitable for high-precision and reliable tensile, compression, bending, shearing, and other tests on high-strength specimens of various shapes and sizes, with a testing force range of 300-2000 kN. The DF61 series features a high-strength host mainframe and is equipped with a compact integrated hydraulic source. At the same time, the testing system utilizes high-precision electro-hydraulic servo units and high-speed digital closed-loop controllers to control hydraulic actuators, which can realize force control, displacement control, or strain control experiments.

02 Test solution

Metal tensile test, bending performance test, shear performance test, metal expansion test, fastener mechanical test, concrete compression test

03 Standards and methods

- GB/T2611《General Technical Requirements for Testing Machines》
- GB/T16826《Electro-Hydraulic Servo Universal Testing Machines》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T228.1《Metallic Materials Room Temperature Tensile Test Method》
- GB/T50081《Standard Test Methods for Physical and Mechanical Properties of Concrete》
- GB/T232《Metal Materials - Bending Test Methods》
- GB/T3098《Mechanical Properties of Fasteners》
- GB/T1499《Steel for the Reinforcement of Concrete - Hot Rolled Ribbed Bars》
- GB/T242《Metal Tube Flaring Test Methods》

04 Advantages and features

Dual-space configuration, compact structure
Satisfies a variety of testing needs

Hydraulic wedge clamping, convenient for gripping the sample and not easy to slip

Low noise hydraulic source brings a comfortable working environment

High resolution and sampling frequency
High precision and high accuracy measurements

High precision load sensor
High precision load sensor with an accuracy of 0.5%

High frequency response hydraulic servo controlFast response speed

05 Technical parameter

Specifications	DF61.305	DF61.605	DF61.106	DF61.206
Rated test force value (kN)	300	600	1000	2000
Test space configuration	Double space	Double space	Double space	Double space
Accuracy class	Class 0.5	Class 0.5	Class 0.5	Class 0.5
Measuring range of the test force	1%-100%FS	1%-100%FS	1%-100%FS	1%-100%FS
Relative error of test force indication	±0.5%	±0.3%	±0.3%	±0.5%
Test force resolution (N)	0.6	1.2	2	4
Displacement measurement resolution(mm)	0.007 / 0.012	0.007 / 0.012	0.007 / 0.012	0.007 / 0.012
Test force loading rate range	60N～6kN/s	120N～12kN/s	200N～20kN/s	400N～40kN/s
Maximum tensile space (mm)	620	720	720	920
Maximum compressed space (mm)	670	830	790	950
Effective distance between columns (mm)	405	430	430	660
Maximum piston stroke (mm)	150	250	250	250
Maximum speed of piston movement(mm/min)	180	140	90	70
Flat specimen clamping range (mm)	2～25	2～30	2～40	10～70
Flat specimen clamping range (mm)	Ø6～Ø32	Ø10～Ø40	Ø12～Ø55	Ø15～Ø70
Compression fixture size (mm)	150×150	150×150	220×220	240×240
Dimensions of the main unit (H×W×D mm) (Excluding piston travel)	1980×770×570	2410×860×620	2540×910×640	3000×1230×850
Host weight(kg)	1500	2500	3500	6500
Power specifications of the system	3～3W+N+PE, 380V/50Hz	3～3W+N+PE, 380V/50Hz	3～3W+N+PE, 380V/50Hz	3～3W+N+PE, 380V/50Hz
System power (kW)	2.2	3	3	4.5

DF series electro-hydraulic

servo hydraulic test system

Product model

DF61.106-GL Steel Strand Testing Machine

01 Overview

The DF61.106-GL is rated for a test force of 1000 kN, specifically designed for tensile performance testing of strand specimens with a maximum clamping length of 310 mm, conforming to the specifications of GB/T5224-2023 for strand testing. The DF61.106-GL features a high-strength mainframe with a compact, integrated hydraulic source. Employing a dual-space configuration, the machine is also suitable for high-precision and reliable tensile, compression, bending, and shearing tests on high-strength specimens of various shapes and sizes.

02 Test solution

Steel strand tensile testing, metal tensile testing, bending performance testing、Shear performance testing, metal expansion testing,fastener mechanicaltesting、Concrete compression testing

03 Standards and methods

- GB/T2611《General requirements for Testing Machines》
- GB/T16826《Electro-hydraulic Servo Universal Testing Machine》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T5224《Steel Strand for Pre stressing Concrete》
- GB/T228.1《Metallic Materials Room Temperature TensileTest Method》
- GB/T50081《Standard Test Methods for Physical and Mechanical Properties of Concrete》
- GB/T232《Metal Materials - Bending Test Methods》
- GB/T3098《Mechanical Properties of Fasteners》
- GB/T1499《Steel Ribbed Reinforcement for Reinforced Concrete》
- GB/T242《Method of expanding test for metal pipes》

04 Advantages and features

Dedicated strand clamping jaws
Maximum clamping length of 310mm

Elevated tensile test space
Accommodating long specimens

Dual-space configuration,
compact structureMeet various
types of testing requirements

Low noise hydraulic source for
a comfortable working environment

High precision load sensor with
an accuracy of 0.3%

High response hydraulic servo
control for quick response times

05 Technical parameter

Specifications	DF61.106-GL
Rated test force value (kN)	1000
Test space configuration	Double space
Accuracy class	Class 0.5
Measuring range of the test force	1%-100%FS
Relative error of test force indication	±0.3%
Test force resolution (N)	2
Displacement measurement resolution (mm)	0.007 / 0.012
Test force loading rate range	200N～20kN/s
Maximum tensile space (mm)	900
Maximum compressed space (mm)	900
Effective distance between columns (mm)	430
Maximum piston stroke (mm)	250
Maximum speed of piston movement (mm/min)	90
Flat specimen clamping range (mm)	2～40
Flat specimen clamping range (mm)	Ø12～Ø48
Compression fixture size (mm)	220×220
Strand specimen clampingrange (mm)	Ø9.5、Ø12.7、Ø15.2、Ø17.8、Ø21.8
Dimensions of the main unit (H×W×D mm) (Excluding piston travel)	3050×910×640
Host weight(kg)	3800
Power specifications of the system	3～3W+N+PE，380V/50Hz
System power (kW)	3

DF series electro-hydraulic

servo hydraulic test system

Product model

Df62 hydraulic universal testing machine

01 Overview

Df62 series hydraulic universal testing system is suitable for high-precision and reliable tensile testing of high-strength specimens of different shapes and sizes, with a with a testing force range from 600 to 2000 kN. The DF62 series has a high-strength mainframe and a compact integrated hydraulic source. At the same time, the testing system uses high-precision electro-hydraulic servo units and high-speed digital closed-loop controllers to control hydraulic actuators, which can achieve force control, displacement control, allowing tests controlled by force, displacement, or strain.

02 Test solution

Metal tensile testing, bending performance testing, shear performance testingMetal flaring testing, fastener mechanical testing

03 Standards and methods

- GB/T2611《General Technical Requirements for Testing Machines》
- GB/T16826《Electrohydraulic Servo Universal Testing Machine》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T228.1《Metallic Materials Room Temperature Tensile Test Method》
- GB/T232《Metal Materials - Bending Test Methods》
- GB/T3098《Mechanical Properties of Fasteners》
- GB/T1499《Steel Ribbed Reinforcement for Reinforced Concrete》
- GB/T242《Method of expanding test for metal pipes》

04 Advantages and features

Single test space configuration
Suitable for tensile testing conditions

Four column frame
The whole machine has good rigidity

Reasonable layout of experimental space
Compliant with ergonomics

Flata push clamping specimen
High experimental efficiency

Configure an efficient variable frequency HPU

High frequency response hydraulic servo control
Fast response speed

05 Technical parameter

Specifications	DF62.605	DF62.106	DF62.206
Rated test force value (kN)	600	1000	2000
Test space configuration	Single test space	Single test space	Single test space
Accuracy class	Class 0.5	Class 0.5	Class 0.5
Measuring range of the test force	1%-100%FS	1%-100%FS	1%-100%FS
Relative error of test force indication	±0.5%	±0.5%	±0.5%
Test force resolution (N)	1.2	2	4
Displacement measurement resolution (mm)	0.01	0.01	0.01
Test force loading rate range	120N~12kN/s	200N~20kN/s	400N~40kN/s
Maximum tensile space (mm)	610	710	815
Maximum compressed space (mm)	595×365	600×440	820×580
Effective distance between columns (mm)	590	690	795
Maximum piston stroke (mm)	200	300	150
Maximum speed of piston movement (mm/min)	380	550	350
Flat specimen clamping range (mm)	2～45	2～70	2～80
Flat specimen clamping range (mm)	Ø10～Ø45	Ø15～Ø60	Ø15～Ø100
Dimensions of the main unit (H×W×D mm)	2850×960×800	3560×1020×840	4300×1220×980
Host weight(kg)	2900	5500	11000
Power specifications of the system	3～3W+N+PE, 380V/50Hz	3～3W+N+PE, 380V/50Hz	3～3W+N+PE, 380V/50Hz
System power (kW)	6	10	12

DF series electro-hydraulic

servo hydraulic test system

Product model

Df63 hydraulic universal testing machine

01 Overview

The DF63 series hydraulic universal testing system is suitable for high-precision and reliable tensile testing of high-strength specimens of different shapes and sizes, with a test force range covering 600-2000kN. The DF63 series has a high-strength host frame and is equipped with a compact integrated oil source. At the same time, the testing system uses high-precision electro-hydraulic servo units and high-speed digital closed-loop controllers to control hydraulic actuators, which can achieve force control, displacement control, or strain control experiments.

02 Test solution

Metal tensile testing, bending performance testing, shear performance testing、Metal expansion testing, fastener mechanical testing

03 Standards and methods

- GB/T2611 《General Technical Requirements for Testing Machines》
- GB/T16826 《Electrohydraulic Servo Universal Testing Machine》
- JJG139 《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T228.1 《Metallic Materials Room Temperature Tensile Test Method》
- GB/T232 《Metal Materials - Bending Test Methods》
- GB/T3098 《Mechanical Properties of Fasteners》
- GB/T1499 《Steel Ribbed Reinforcement for Reinforced Concrete》
- GB/T242 《Method of expanding test for metal pipes》

04 Advantages and features

Single test space configuration
Suitable for tensile testing conditions

Four column frame
High overall rigidity

Well-arranged test space
Complies with ergonomic principles

Wedge-type specimen clamping
The sample is not prone to slipping

Equipped with an efficient variable frequency hydraulic source
Energy-efficient

High response speed with hydraulic servo control

05 Technical parameter

Specifications	DF63.605	DF63.106	DF63.206
Rated test force value (kN)	600	1000	2000
Test space configuration	Single test space	Single test space	Single test space
Accuracy class	Class 0.5	Class 0.5	Class 0.5
Measuring range of the test force	1%-100%FS	1%-100%FS	1%-100%FS
Relative error of test force indication	±0.5%	±0.5%	±0.5%
Test force resolution (N)	1.2	2	4
Displacement measurement resolution (mm)	0.01	0.01	0.01
Test force loading rate range	120N~12kN/s	200N~20kN/s	400N~40kN/s
Maximum tensile space (mm)	610	710	815
Maximum compressed space (mm)	595×365	600×440	820×580
Effective distance between columns (mm)	590	690	795
Maximum piston stroke (mm)	200	300	150
Maximum speed of piston movement (mm/min)	380	550	350
Flat specimen clamping range (mm)	2～30	2～40	10～70
Flat specimen clamping range (mm)	Ø10～Ø40	Ø12～Ø55	Ø15～Ø70
Dimensions of the main unit (H×W×D mm)	2850×960×800	3450×1020×840	4100×1220×980
Host weight(kg)	2900	5000	8650
Power specifications of the system	3～3W+N+PE, 380V/50Hz	3～3W+N+PE, 380V/50Hz	3～3W+N+PE, 380V/50Hz
System power (kW)	4	7.5	9.5

DF series electro-hydraulic

servo hydraulic test system

Product model

DF63.106-GL Steel Strand Testing Machine

01 Overview

DF63.106-GL has a rated test force of 1000kN and a maximum clamping length of 320mm. It is specifically designed for testing the tensile properties of steel strand specimens and meets the requirements of GB/T5224-2023 version for steel strand testing. DF63.106-GL has a high-strength host framework and is equipped with a compact integrated oil source. The host adopts a single space configuration, which is suitable for working conditions mainly focused on tensile testing and has higher testing efficiency.

02 Test solution

Steel strand tensile test, metal tensile test
fastener mechanical testing

03 Standards and methods

- GB/T2611《General requirements for Testing Machines》
- GB/T16826《Electro-hydraulic Servo Universal Testing Machine》
- JJG139《Verification Regulations for Tension, Pressure, and Universal Testing Machines》
- GB/T5224《Steel Strand for Pre stressing Concrete》
- GB/T228.1《Metallic Materials Room Temperature Tensile Test Method》
- GB/T3098《Mechanical Properties of Fasteners》
- GB/T1499《Steel Ribbed Reinforcement for Reinforced Concrete》

04 Advantages and features

Single test space configuration
Suitable for tensile testing conditions

Dedicated strand clamping jaws
Maximum clamping length of 320mm

Four column frame
High overall rigidity

Well-arranged test space
Complies with ergonomic principles

Equipped with an efficient variable frequency hydraulic source
Energy-efficient

High response speed with hydraulic servo control

05 Technical parameter

Specifications	DF63.106-G
Rated test force value (KN)	1000
Test space configuration	Single space
Accuracy Class	Class 0.5
Measuring range of the test force	1%-100%FS
Relative error of test force indication	±0.5%
Test force resolution (N)	2
Relative error of test force indication	0.01
Test force loading rate range	200N~20kN/s
Maximum tensile space (mm)	800
Effective distance between columns (mm)	730×540
Maximum piston stroke (mm)	690
Maximum piston lifting speed (mm/min)	300
Maximum piston lifting speed (mm/min)	550
Clamping range of steel strand specimen (mm)	Ø9.5、Ø12.7、Ø15.2、Ø17.8、Ø21.8
Dimensions of the main unit (H×W×D mm)	3500×1400×1100
Host weight (kg)	5700
Power specifications of the system	3～3W+N+PE，380V/50Hz
System power (kW)	7.5

DF series electro-hydraulic

servo hydraulic test system

Product model

Df71 compression testing machine

01 Overview

The DF71 series compression testing machine is suitable for compressive strength testing of materials such as cement, concrete, and rock. With appropriate fixtures and testing devices, it can meet the requirements of concrete splitting test, flexural test, and static pressure elastic modulus test, with a test force range from 600 kN to 3000 kN. Due to the high-strength mainframe and a compact integrated hydraulic source. At the same time, the testing system uses high-precision electro-hydraulic servo units and high-speed digital closed-loop controllers to control hydraulic actuators, which can achieve force control, displacement control, or strain control experiments.

02 Test solution

Concrete compression test, concrete elastic modulus test

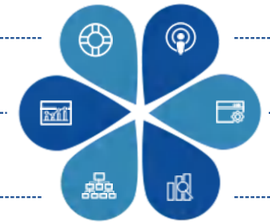
03 Standards and methods

- GB/T2611 General Technical Requirements for Testing Machines
- GB/T16826 Electrohydraulic Servo Universal Testing Machine
- JJG139 Verification Regulations for Tension, Pressure, and Universal Testing Machines
- GB/T50081 Standard Test Methods for Physical and Mechanical Properties of Concrete

04 Advantages and features

Four column main frame
High overall rigidity
Install four sided protective covers
Ensure experimental safety

Compact structure of the host and HPU
Few space need



Configure cushion plate adjustment test spaceHigh experimental efficiency

High resolution and sampling frequency
Realize high-precision and high-precision measurement

High frequency response hydraulic servo controlHigh response speed

05 Technical parameter

Specifications	DF71.605	DF71.106	DF71.206	DF71.306
Rated test force value (KN)	600	1000	2000	3000
Accuracy class	class 1	class 1	class 1	class 1
Test space configuration	2%-100%FS	2%-100%FS	2%-100%FS	2%-100%FS
Relative error of test force indication	±1%	±1%	±1%	±1%
Test force resolution (N)	1.2	2	4	6
Displacement measurement resolution (mm)	0.012	0.012	0.012	0.012
Test force loading rate range	120N～12kN/s	200N～20kN/s	400N～40kN/s	600N～60kN/s
Effective distance between columns (mm)	320	400×380	400×400	450×450
Maximum space between upper and lower plates (mm)	300	300	300	300
Maximum piston stroke (mm)	135	135	135	200
Maximum speed of piston movement (mm/min)	130	75	75	50
Compression grip size (mm)	Ø230	Ø300	Ø300	Ø300
Dimensions of the main unit (H×W×D mm)	1650×500×650	1220×700×620	1320×780×700	1500×870×790
Host weight (kg)	700	1400	2100	3050
Power specifications of the system	3～3W+N+PE，380V/50Hz	3～3W+N+PE，380V/50Hz	3～3W+N+PE，380V/50Hz	3～3W+N+PE，380V/50Hz
System power (kW)	2.5	4.5	4.5	4.5

DF series electro-hydraulic

servo hydraulic test system

Product model

Df72 compression testing machine

01 Overview

The DF72 Series Compression Testing Machine is suitable for compressive strength testing of materials such as cement, concrete, and rock. With appropriate clamps and testing devices, it can accommodate concrete splitting tests, bending resistance tests, and static modulus of elasticity tests, covering a force range from 3000 kN to 10000 kN. The DF72's mainframe is constructed with a four-column integral framework, ensuring excellent rigidity. The crossbeam features electric lifting, making the adjustment of the test space efficient and convenient.

02 Test solution

Concrete compression test, concrete elastic modulus test

03 Standards and methods

- GB/T2611 General Technical Requirements for Testing Machines
- GB/T16826 Electrohydraulic Servo Universal Testing Machine
- JJG139 Verification Regulations for Tension, Pressure, and Universal Testing Machines
- GB/T50081 Standard Test Methods for Physical and Mechanical Properties of Concrete

04 Advantages and features

Four column main frame
High overall rigidity

Suitable for columnar components
Compressive strength test

Electric lifting of the crossbeam.
Efficient and convenient
adjustment of the test space.

Can achieve long-term load retention
High load-holding precision.

Realize high-precision and
high-accuration measurement

High frequency response hydraulic
servo control
Rapid response speed

05 Technical parameter

Specifications	DF72.306	DF72.506	DF72.107
Rated test force value (KN)	3000	5000	10000
Accuracy class	class 1	class 1	class 1
Test space configuration	2%-100%FS	2%-100%FS	2%-100%FS
Relative error of test force indication	±1%	±1%	±1%
Test force resolution (N)	6	10	20
Displacement measurement resolution (mm)	0.012	0.012	0.012
Test force loading rate range	600N～60kN/s	1000N～100kN/s	2000N～200kN/s
Effective distance between columns (mm)	900×780	800×500	1190×590
Maximum space between upper and lower plates (mm)	1500	1500	1100
Maximum piston stroke (mm)	200	80	100
Maximum speed of piston movement (mm/min)	50	50	50
Compression grip size (mm)	600×600	600×600	1000×1000
Dimensions of the main unit (H×W×D mm)	3350×1300×1400	3800×1250×2000	3900×1900×2700
Host weight (kg)	9000	10000	18000
Power specifications of the system	3～3W+N+PE，380V/50Hz	3～3W+N+PE，380V/50Hz	3～3W+N+PE，380V/50Hz
System power (kW)	7.5	14	20

DF series torsion testingsystem

Model: DF51 series

Product model：NWS Series

01 Overview

Applicable for torsion mechanical property tests on metals, non-metals, composites, and components, including material torsional failure, torsional shear modulus, and multi-step torque loading tests. Equipped with a torsion meter for measuring shear modulus and specified non-proportional torsional stress.

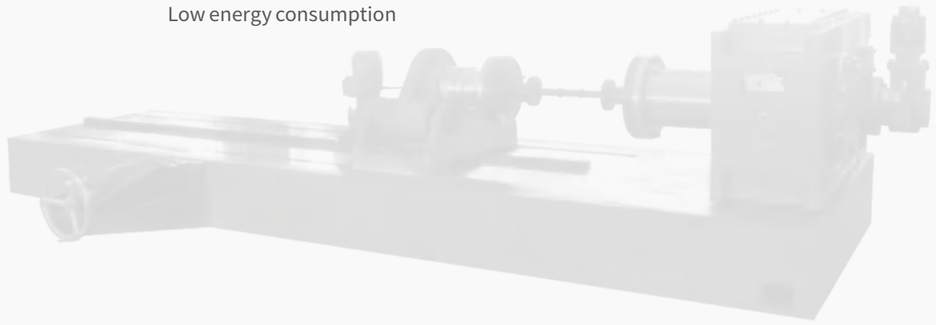
02 Standards and methods

- Inspection standard: JJG269《Verification Regulation of Torsion Testing Machines》
- Test method: GB/T10128 《Metallic materials--Torsion test at room temperature》
- HB7595《General specification for nuts,self-locking, with maximum operating temperature less than or equal to 425℃》

03 Advantages and characteristics

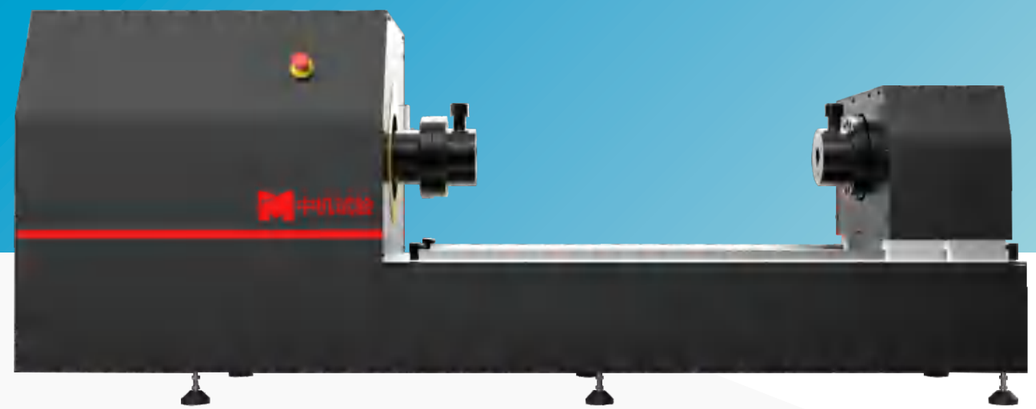
- Continuously adjustable speed, with the ability to set multiple testing speeds.
- Configurable with environmental devices such as atmospheric furnaces and high/low-temperature chambers.
- Automatic tracking and measurement of torque, torsion angle, and force values.

- Servo loading system
  Rapid response
  Accurate positioning
  Low noise
  Low energy consumption
- Incremental dual closed-loop control technology
  Equipped with a torsion meter
  Capable of torque, torque angle, and deformation
  Three loop control



04 Technical parameter

Model	DF51.102T	DF51.202T	DF51.502T	DF51.103T	DF51.203T	DF51.503T
Host	Horizontal					
Maximum test torque	100N · m	200N · m	500N · m	1000N · m	2000N · m	5000N · m
Torque measurement range	1%FS～100% FS					
Torque measurement accuracy	±0.5% of indication					
Torque measurement range	nx360°					
Torque measurement accuracy	±0.5% of indication					
Twist angle display range	0.0002°					
Active chuck speed	6°～1080°/min					
Twist direction	Forward or Reverse					
Tail seat movement stroke	0～650mm					
Torque measurement resolution	One million yards					



Control system

TMCi controller

- The main board features an L-shaped structure, facilitating the built-in wiring
- Power supply uses 24V compared to 5V to reduce heat generation and line voltage drop losses
- The CPCI connector uses a three-row hole design to enhance the stability of the plug
- The daughter board interface is designed to face backward, ensuring a triangular structure with the rear panel for increased stability
- The control main board comes with 1 channel for load, 1 channel for displacement, 2 channels for grating, and 1 channel for output

DOLli20 controller

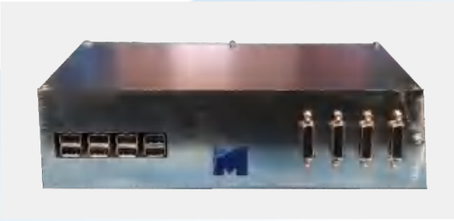
- High measurement resolution: Features a high resolution of ±1 million counts, enabling precise measurements;
- Stepless in full scale technology: The earliest high-resolution measurement system with Stepless in full scale technology in the domestic testing machine industry. It has promoted the development of Stepless technology for measuring devices in the testing machine industry;
- The sampling frequency of the controller can reach up to 2500Hz;
- Intelligent sensor application technology: Each sensor channel can automatically recognize and immediately use different sensors inserted without the need for settings in the software. This prevents sensor damage due to human errors. Sensors that have been calibrated can be plugged into other i20 controllers for immediate use without re-calibration. This technology leads in the domestic testing machine industry;
- High stability and reliable controller: Utilizes advanced German manufacturing technology for the control box and a four-layer circuit board. All components are mounted using an automatic surface mounting machine, ensuring extremely reliable quality;
- The displacement speed of the crossbeam driven by the i20 digital controller can be set arbitrarily. It Can form stress, stress variable control system。

DOLli20 controller

- The controller can simultaneously expand 3 channels for bridge signal
- The controller can also expand 6 channels for deformation acquisition signals, with an accuracy of 0.04um
- High measurement resolution: A resolution of ±1 million codes allows for high-precision measurements
- The controller has a high sampling frequency of up to 2500Hz
- The product is benchmarked against the Dolii20 controller

MGC Controller

- 24 bit ADC sensor measurement, ± 500,000 yards of high resolution,high-precision measurement;
- Full digital three closed loop control, force control, deformation control, displacement control, different control methods the formula has no overshoot and switches smoothly;
- High-speed acquisition of digital orthogonal pulse ·signals, automatic direction identification;
- 16 bit DAC control channel to quickly adjust the response of the actuator ;
- ntegrated design, high integration, and good stability;
- Supports 2 analog sensor channels;
- Supports two digital sensor channels (photoelectric encoder, grating ruler, etc.)。



MGC控制器

Control system

TMCi controller

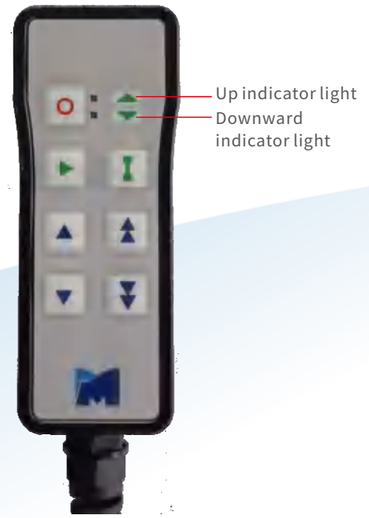
The TMCi manual control box has the following characteristics:

- Can be fixed on the device or removed for handheld operation;
- Beautiful appearance, convenient handheld, in line with ergonomics;
- The LCD screen can display the current test force, crossbeam movement speed, displacement, and deformation in real time;
- The LCD display screen can display the software's upper/lower limit
- protection status in real time, and remind when the limit is reached;
- LCD display screen can be operated by touch;
- The movement speed of the crosscrossbeam can be controlled through a handwheel;
- Press the run button, and the machine will conduct the test according to the set test plan;
- Press the stop button to stop the test;
- Press the emergency stop button to shut down the equipment in case of emergency;
- Subsequent expansion functions: control the release and clamping of hydraulic fixtures, secondary locking function of crossbeams, and other functions to be expanded;
- The manual control box adopts RS232 serial communication, which can directly connect to the interface of the controller manual control box; The manual control box can be accessed through a serial port. Communicate with the host computer and use it as the hand control box of the DOL controller. The host computer software has integrated this function。

The MGC manual control box has the following characteristics

- Must be fixed on the equipment;
- The beam can be controlled to rise/fall quickly and rise/fall slowly;
- Can eliminate the initial clamping force of the sample during the clamping process (automatically moves the beam so that the force on the sample is less than

  A certain set value) function;
- Press the Run button, and the machine will conduct the test according to the set test plan. Press again to stop the test;
- Press the emergency stop button to shut down the equipment in an emergency;
- No subsequent expansion functions。



Computer systems

test software

1、TestReady is a professional static testing software with a beautiful interface, stable and reliable performance, and easy to use, which can be used for electronic universal testing testing machines, electro-hydraulic servo universal testing machines, as well as various controllers such as MGC, Doli, TMCi, TMCb, etc

2、TestReady is a professional static testing software with a beautiful interface, stable and reliable performance, and easy to use

3、Meet GB, ISO, ASTM, EN, DIN and other common static test method standards at home and abroad,and can achieve tensile, compressive conventional static tests such as bending and shearing can be customized and extended to achieve complex experimental calculations

4、The drag and drop method makes it easy to edit the experimental process, and the powerful and flexible customization function can achieve a simple to complex experimental process

5、Draw various types of curves, such as stress-strain, force- deformation, force- time, force- displacement, displacement- time, and deformation-time and other functions are supported, allowing for quick and smooth scaling, translation, traversal, and other operations on curves. Simply use the mouse to manipulate the curves comprehensive analysis and operation

6、Perfect support for the highest sampling frequency of the controller, supporting segmented frequency division and speed reduction sampling

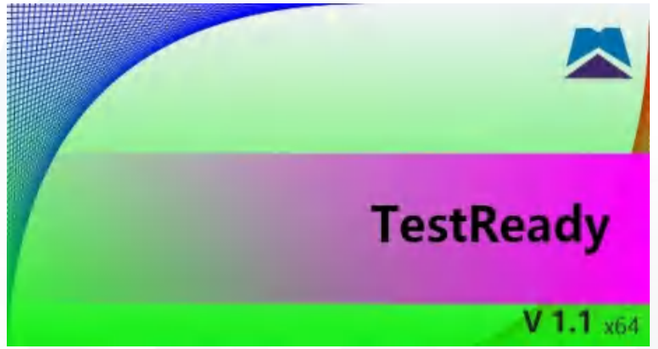
7、One click switch software multilingual interface, supporting more language extensions

8、A flexible and free experimental report template that allows for custom experimental report formats

9、 Support the switch between the international System of units and common units, with free and convenient unit switching

10、Encrypt experimental data to ensure data security and reliability, and export commonly used formats such as txt, CSV, and Excel

11、The sensor calibration and verification operation is convenient, and supports one click quick correction based on the current verification record

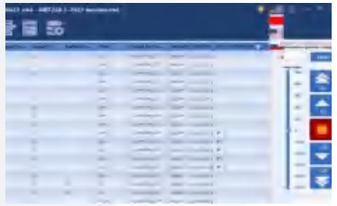


Startup interface

Calibration and verification interface

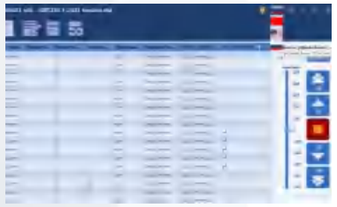
Main interface

Test interface

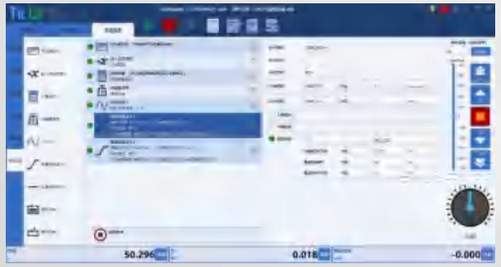


English interface

Parameter settings



Russian interface



Control process

Report Template Designer

2500 frequency sampling

Pendulum
series testing machine

DF52.752A

Touch screen type metal pendulum impact testing machine

01 Equipment description

This machine is an instrument for testing the impact resistance of metal materials under dynamic loads. It can continuously conduct a large number of metal impact tests and adopts fully automated control. The control system uses an imported programmable logic controller (PLC) to control the entire process of swing and impact testing. Display impact absorption energy, impact toughness, rotation angle of pendulum, and be able to print test reports, etc. Easy to operate, safe and reliable, with high work efficiency. This machine is equipped with a protective net cover, providing conditions for users' safe operation. It is an essential testing instrument for metal material manufacturers and quality inspection departments, and also an indispensable testing instrument for scientific research institutions to conduct new material research

02 Execution standards

1. GB/T3808-2018《Inspection of Pendulum Impact Testing Machines》

2. GB/T 229-2007《Charpy Pendulum Impact Test Method for Metallic Materials》

3. JJG145-2007《Pendulum Impact Testing Machine》

4.ASTM E23-07a《Standard Test Methods for Notched BarImpact Testing of Metallic Materials》

(Only satisfied when equipped with ASTM)

5.ISO148:1998《Metallic materials-Charpy pendulum impacttest》

03 Main technical parameters

1、Impact energy: 150J, 300J, 450J, 600J, 750J

2、Pendulum moment (impact constant): 80.3848N · m, 160.7695N · m

3、Pendulum pre-lift Angle: 150°

4、Minimum resolution of angle: 0.1°

5、Distance from the center of the pendulum to the impact point (center of the specimen): 750mm

6、Impact speed: 5.24m/s

7、Sample support span: 40mm

8、Sample support end arc radius: 1-1.5mm

9、Angle of bearing surface of sample support: 11°±1°

10、Impact knife arc radius: 2-2.5mm

11、Impact knife angle: 30°±1°

12、Impact knife thickness: 16mm

13、Sample size (length x width x height): 55mm x 10mm x 10 (7.5, 5, 2.5) mm

14、Environmental temperature: 10-35°C

15、Overall dimensions of the host (length x width x height): approximately 2100mm x 835mm x 2100mm

16、Host weight: approximately 900kg

17、Host power supply: AC three-phase five wire 380V±10% 50Hz 1.5kW

18、Environmental conditions: No corrosive media, no vibration, no strong electromagnetic field interference in the surrounding environment.

Pendulum
series testing machine

型号DF54.501A

LCD plastic pendulum impact testing machine

01 Equipment description

The DF54.501A LCD plastic impact testing machine is a new generation of plastic pendulum impact testing machine independently developed by our company. This machine summarizes past experience, absorbs international advanced technology characteristics, and has made many improvements to plastic small pendulum, which can better meet the user's requirements. This machine is a testing instrument used to inspect the impact resistance of non-metallic materials such as plastic, nylon, rubber, fiberglass, composite plastic pipes, and electrical insulation materials under dynamic loads. This machine adopts semi-automatic control, which is easy to operate and has high work efficiency. Automatically obtain test data after impacting the specimen. The superiority can be better demonstrated in laboratories and manufacturers that conduct continuous and extensive impact tests. The dedicated control panel justment and replacement, and strong applicability.and display screen equipped with this machine can meet the operation and display requirements required by users for testing, such as displaying impact absorption energy, impact strength, pendulum movement angle, and printing test reports. It is an essential testing instrument for manufacturers, quality inspection units, research institutes, and other hard plastic manufacturers.

This machine can perform both simply supported beam tests and cantilever beam tests. With accessories such as tensile impact supports, T-shaped heads, and tensile impact pendulums, it can also perform tensile impact tests on plastics at higher deformation rates. After being equipped with a pipe impact support, a pipe impact test can be conducted. After being equipped with cast iron impact bearings, cast iron impact tests can be conducted. One machine with multiple uses, high cost-effectiveness, convenient support ad

02 Execution standards

1. GB/T1043-2008《Method of impact test for simply supported crossbeams of rigid plastics》
2. QC/T80-2022《Nylon (Polyamide Pipe) for Road Vehicle Air Brake Systems》
3. JB/T8762-1998《Plastic Simply Supported crossbeam Impact Testing Machine》
4. ISO179:2000《Plastics Determination of Charpyimpact Properties》
5. GB/T21189-2007《Inspection of pendulum impact testing machines for plastic simply supported crossbeams, cantilever crossbeams, and tensile impact tests》

03 Main technical parameters

1、Maximum impact energy: 50J, 25J, 15J, 7.5J, 4J, 2J, 1J for simply supported crossbeams

2、Pendulum moment: Simply supported crossbeam 26.7949N · m, 13.3975N · m, 8.0385N · m, 4.0192N · m, 2.1436N · m, 1.0718N · m, 0.5359Nm

3、Pendulum prelift Angle: 150 °

4、Angle resolution: 0.1 °

5、Technical parameters of simply supported crossbeams:

(1) Impact speed: 2.9m/s (≤ 5J), 3.8m/s (>5J)

(2) Distance from the center of the pendulum to the center of the specimen: 230mm (≤ 5J), 395mm (>5J)

(3) Impact knife angle: 30 °

(4) Impact knife corner radius: 2mm

(5) Support fillet radius: 1mm

(6) Front angle of support: 5 °

(7) Rear angle of support: 10 °

(8) Support span: 40mm, 60mm, 70mm

(9) Sample type and size (length x width x thickness):80m x 10mm x 4mm50mm x 6mm x 4mm 120mm x 15mm x 10mm

6、Technical parameters of cantilever crossbeam

(1) Impact speed: 3.5m/s

(2) Distance from the center of the pendulum to the center of the specimen: 335mm

(3) Blade angle: 75 °

(4) Blade fillet radius: 0.8mm

(5) Blade front angle: 5 °

(6) Blade back angle: 10 °

(7) Distance between the center of the blade and the upper surface of the jaws: 22 ± 0.2mm

(8) Sample type and size (length x width x thickness):

80mm x 10mm x 4mm　63.5mm x 12.7mm x 12.7mm　63.5mm x 12.7mm x 6.4mm　63.5mm x 12.7mm x 3.2mm

7、Overall dimensions of the host (length x width x height): 740mm x 260mm x 870mm

8、 Host weight: approximately 100kg

9、Host power supply: AC single-phase 220V, 50Hz, 0.5kW

Fully automatic drop hammer impact testing machine (model: DF56.302)

The DF56.302 fully automatic drop hammer impact testing machine adopts fully automated control, such as automatic prevention of secondary impact, automatic zeroing of the hammer body, automatic zeroing of the sample, automatic hanging of the hammer, automatic lifting of the hammer to the set height, and automatic detection of whether the door is closed. The dedicated control panel and display screen equipped with this machine can meet user testing requirements, displaying real-time experimental information such as impact height, operating speed, and other parameter settings. At the same time, this system has a power failure protection function to ensure the data integrity of the impact height set in the test after power failure. This machine is a testing equipment for impact resistance testing of various non-metallic pipes and plates (including non-metallic materials such as plastics, ceramics, nylon, building materials, etc.). It is an indispensable testing instrument for pipe and sheet manufacturers, product quality inspection institutes, universities, and research institutions.

Microcomputer controlled thermal deformation Vicat softening point testing machine (model: DF81.300)

DF81.300 microcomputer controlled thermal deformation Vicat softening point testing machine is used for testing the Vicat softening temperature and load deformation temperature of thermoplastic pipes and fittings. The main sensors and executive components of this machine have the advantages of good quality, high reliability, and high safety. The sample holder can automatically lift and lower, and the test software equipped is a software specifically designed for testing Vicat softening temperature and load deformation temperature. This machine is an essential testing instrument for some plastic pipe and fitting manufacturers and quality inspection units.

Melt flow rate test (model: DF82.200)

The melt flow rate tester is a specialized equipment for measuring the melt flow rate of thermoplastic materials under certain conditions, and can indirectly determine the molecular weight of high polymers. The melt flow rate (melt index) of thermoplastic refers to the mass or volume of molten plastic passing through a standard die every 10 minutes at a certain temperature and load, expressed as MFR (MI) or MVR value, which can distinguish the viscous flow characteristics of thermoplastic in the molten state. Suitable for testing engineering plastics such as polycarbonate, polyarylsulfone, fluoroplastics, nylon, etc. with high melting temperatures, as well as for testing plastics such as polyethylene (PE), polystyrene (PS), polypropylene (PP), ABS resin, polyoxymethylene (POM), polycarbonate (PC) resin, etc. with low melting temperatures. It is of great significance for ensuring the quality of raw materials and products of thermoplastic plastics and chemical fibers.

Fastener friction coefficient testing machine

The fastener friction coefficient testing machine is mainly used for testing and analyzing fasteners such as bolts, screws, and nuts. By applying tightening torque to the bolt nut connection pair to generate clamping force and measuring its tightening characteristics, clamping force, tightening torque, thread torque, support surface torque, total friction coefficient, support surface friction coefficient, thread friction coefficient, torque coefficient K, etc. can be measured. Widely used in aerospace, higher education institutions, research institutes, quality inspection, automotive rail transit, wind power and other fields.

Notch machine (Model: DF83.200)

This machine is a specialized sample preparation equipment for notch specimens used in non-metallic material impact toughness testing using cantilever beam and simply supported beam pendulum impact testing machines. The equipment is easy to operate, convenient to use, and has the advantages of durable cutting tools, smooth sample edges, and no burrs. This equipment is suitable for the use of laboratory made notch specimens by users such as scientific research institutions, colleges and universities, and non-metallic material factories.

Metal Charpy impact test notch automatic tensile testing machine (model: DF83.100)

This machine is an auxiliary specialized equipment of the metal pendulum impact testing machine, which produces metal impact specimens with different notch shapes according to corresponding standards. This machine adopts hydraulic transmission and electric control (electromagnetic valve reversing control for tool lifting), controllable speed regulation (speed regulating valve can adjust different cutting speeds), and uses lubricating oil to cool and lubricate the cutting tool force, ensuring that the prepared sample gap size and surface quality meet the requirements of high standards for use. The puller is made of high-quality cutting tool alloy material, with a high service life. The equipment is stable and reliable, easy to operate, and has high sample preparation efficiency, making it the best supporting equipment for metal impact testing machines.

Automatic notch machine (Model: DF83.300)

This machine is a specialized sampling equipment for notch specimens used in non-metallic material impact toughness testing using cantilever beam and simply supported beam pendulum impact testing machines. The equipment is easy to operate and convenient to use, and can process 20 specimens at once. It uses tungsten steel cutting heads, durable cutting tools, and produces samples with smooth edges and no burrs. This equipment is suitable for the use of laboratory made notch specimens by users such as scientific research institutions, colleges and universities, and non-metallic material factories.

Dumbbell shaped tensile specimen machine (model: DF83.400)

This machine is suitable for making dumbbell shaped tensile specimens and Vicat hot deformation specimens of various non-metallic pipes or sheets. This machine adopts the principle of contour machining and combines the principle of mechanical transmission to transform the rotational motion of threads into linear motion. It has the characteristics of simple operation, fast speed, convenience, standard sample preparation, and stable size. The relative position between the sample and the cutting tool can be adjusted according to the actual situation. The shape of the sample is controlled by the corresponding template shape, and the working process is not affected by the operator's adjustment. It can be reused multiple times without the need for repeated tool alignment, and can obtain the sample strips that the user needs; Reduced the consumption of working time, improved the universality of operations, improved work efficiency, and reduced processing costs; And a vacuum cleaner is installed on the workbench, providing a good working environment for the staff. Using standard milling cutters for processing, the cutting tools are durable, and the sample edges are smooth and free of burrs. It is an ideal matching product for electronic tensile universal testing machines and Vicat thermal deformation testing machines.