

POTOP

Biaxial Stretcher

Professional

forge ahead and popularize quality





Application

The Biaxial Stretcher instrument on a specified thickness, size, can be used as a bidirectional tensile film material thick film sample, according to the required stretching sheet, Compared to the two-way or unidirectional film-forming tensile test instrument. The instrument is available for laboratory physical and chemical test analysis, according to Sample film properties, redefine a wide variety of additives and formulations. Then, when applied to the production line, it can greatly reduce the trial production cost.

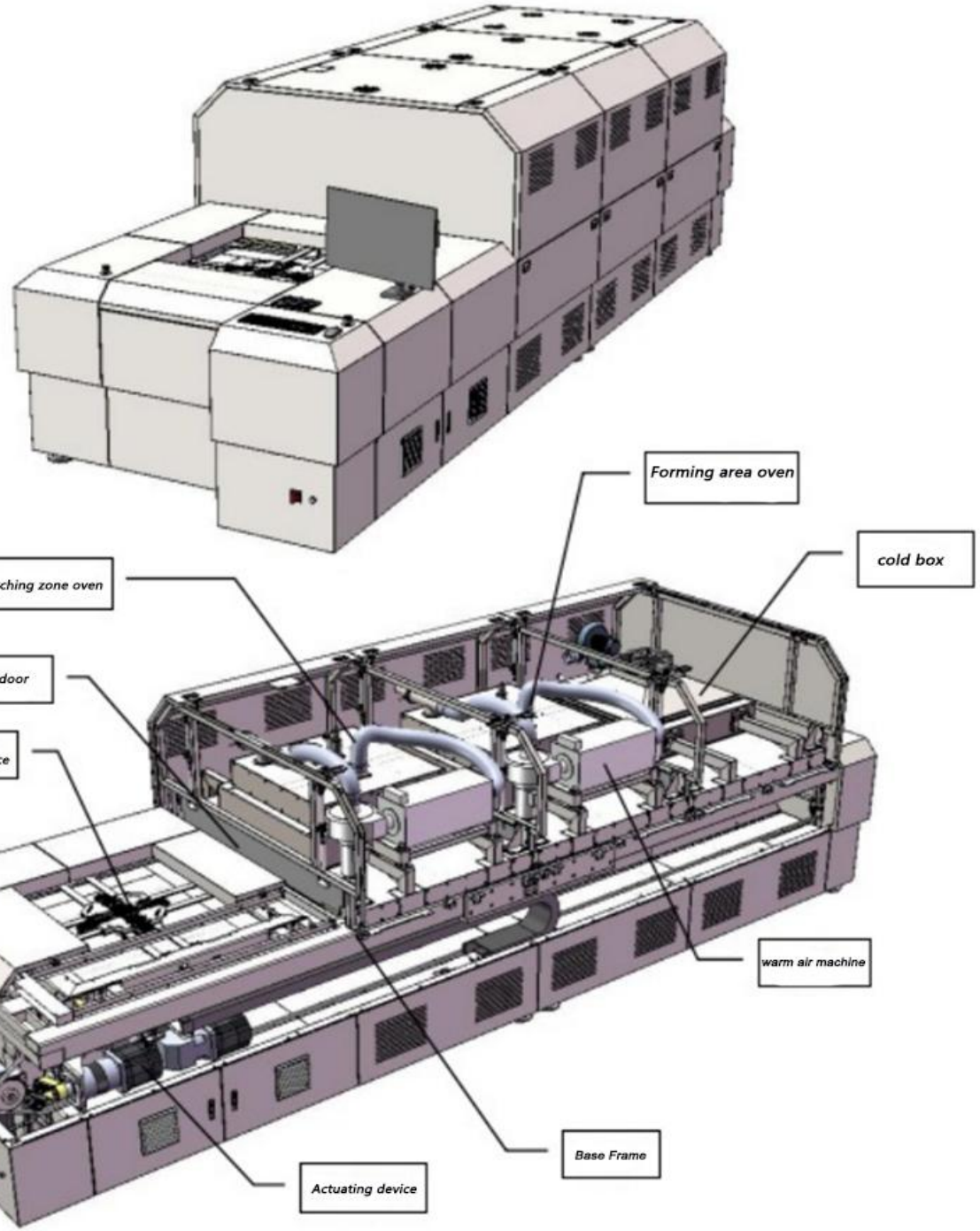
Any bidirectional tensile crystalline type and noncrystalline polymer, made into a thick film sample sheet, can be made static on this instrument, Stretching, such as PP, PE, PET, PPVDF, et al. Applied in new product development and formula optimization, polymer sheet film, Bidirectional tensile performance test, processing process evaluation, etc.

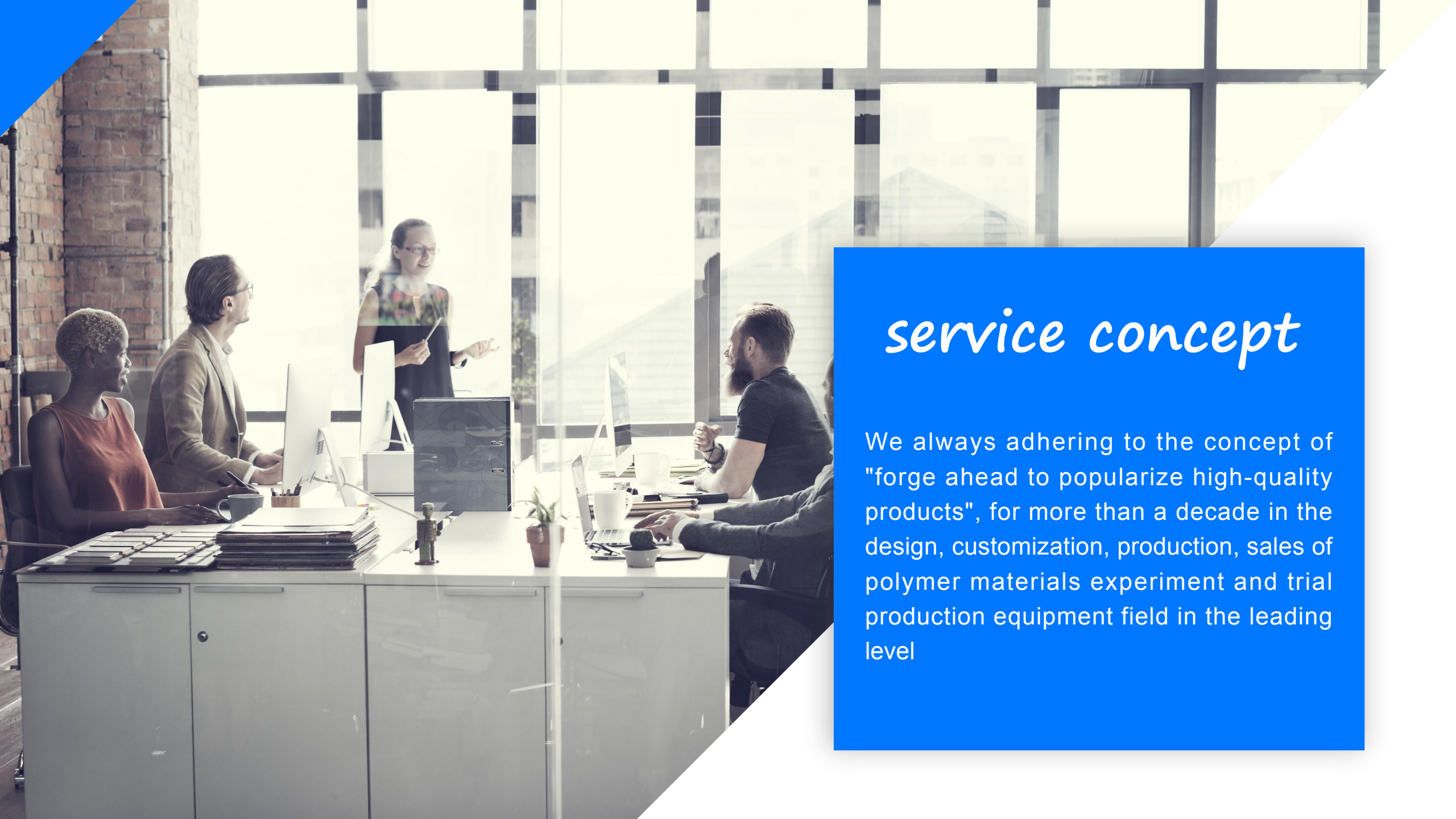
PRODUCT

PARAMETER

Item	Indicator parameters
Applicable materials	PET, PA, PP, PS, et al
Sample thickness range	0.02-4mm
Minimum sample size	80×80mm
Maximum sample size	110×110mm
Maximum stretch speed	500mm/s
Stretch direction	XY axis equal synchronization / asynchronous stretching; X Y axis different ratio synchronization / asynchronous stretching; uniaxial stretching
draw ratio	10:1
Number / shaft of fixtures	Five
Types of fixtures	air-actuated clamp
Gas source type	nitrogen
The number of oven	Two preheat and stretching, and one setting area
Binding mode	hand movement
maximum operation temperature	350℃
Temperature control accuracy	±1℃
Membrane temperature measurement mode	Two sets of tensile box and annealing box each set of online infrared thermometer temperature range: -18~500℃ spectral response: 8~14umD: S: 33:1 System accuracy: ± 1% or 1.4℃ of measured value, large repeability: ± 0.5% or ± 0.7℃, large response time: 165ms
Stress strain test	XY axis each set of tension sensor range: 200N special data acquisition chip and software, provide graphics and data list to export the use of the temperature range: -195-350℃
Drive way	Siemens servo motor
The long myocardium is high in width and oneself	5000×2090×1820mm
Weight	About 2,300 k g
working voltage	3 Phase AC 380V ± 10%, 50Hz
The power of the machine	About 110kW
control method	The Siemens PLC control is available

SCHEMATIC DIAGRAM OF THE PRODUCT STRUCTURE





service concept

We always adhering to the concept of "forge ahead to popularize high-quality products", for more than a decade in the design, customization, production, sales of polymer materials experiment and trial production equipment field in the leading level

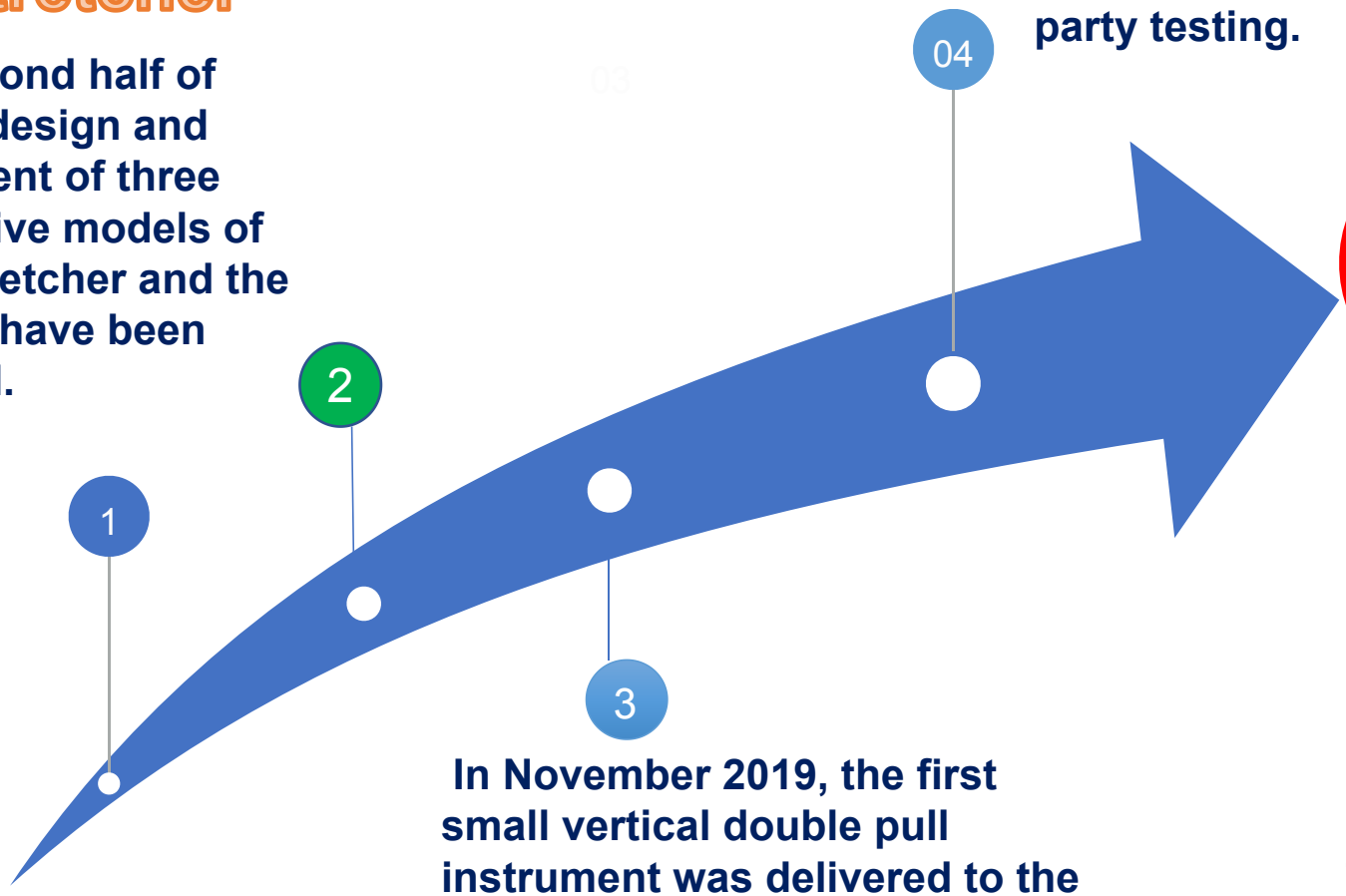
Research and development process of Biaxial Stretcher

In October 2018, the team led by technical Director Tan Jianhua began the research and development journey of two-way stretching instrument.

In the second half of 2019, the design and development of three series of five models of Biaxial Stretcher and the prototype have been completed.

In November 2019, the first small vertical double pull instrument was delivered to the customer, and in December of the same year, the first ten times stretch ratio double bit instrument was delivered to the customer.

In November 2020, Guangzhou Putong's two-way stretching instrument obtained the authoritative CMA and CNAS certification through strict third-party testing.

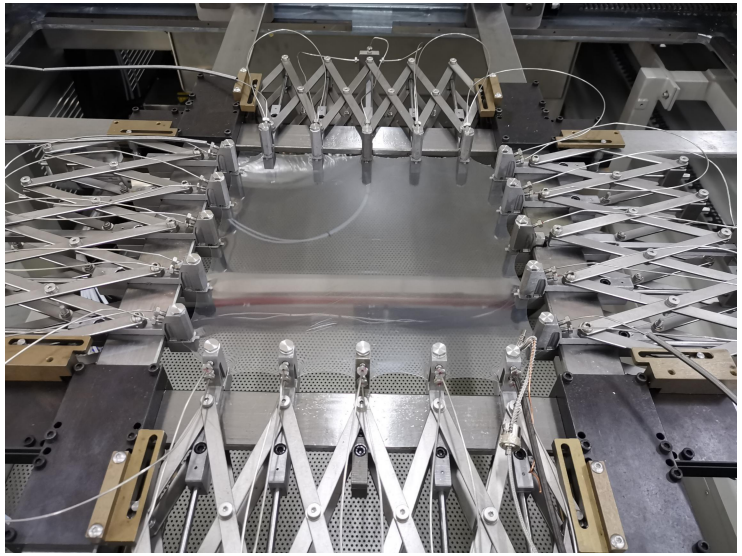


As of 2022, Guangzhou POTOP has delivered seven sets (sets) of each series of two-way stretching instruments to customers, and now there are still several orders to be delivered.

In terms of technology, Guangzhou POTOP has obtained four patents related to the two-way stretching instrument, and a number of patent applications are under review.

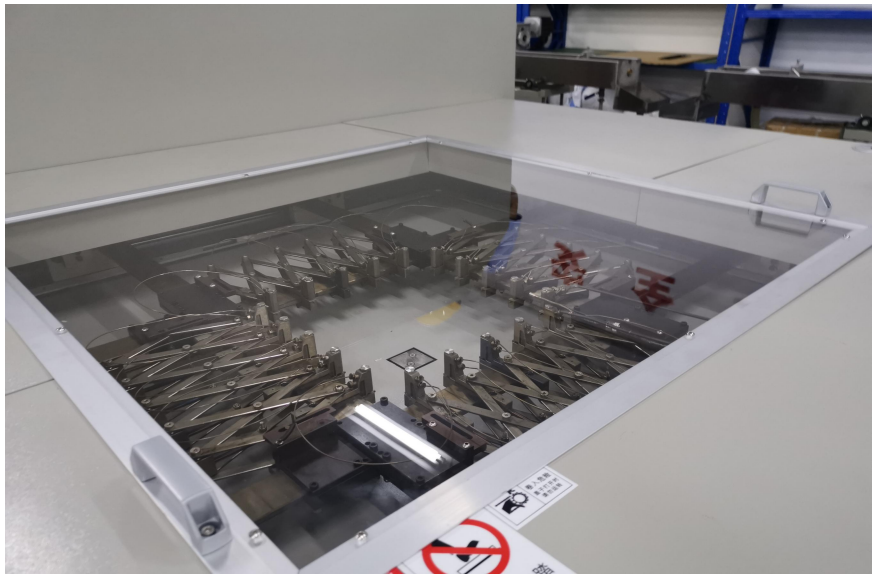
PICTURES OF THE BIAXIAL STRETCHER APPARATUS





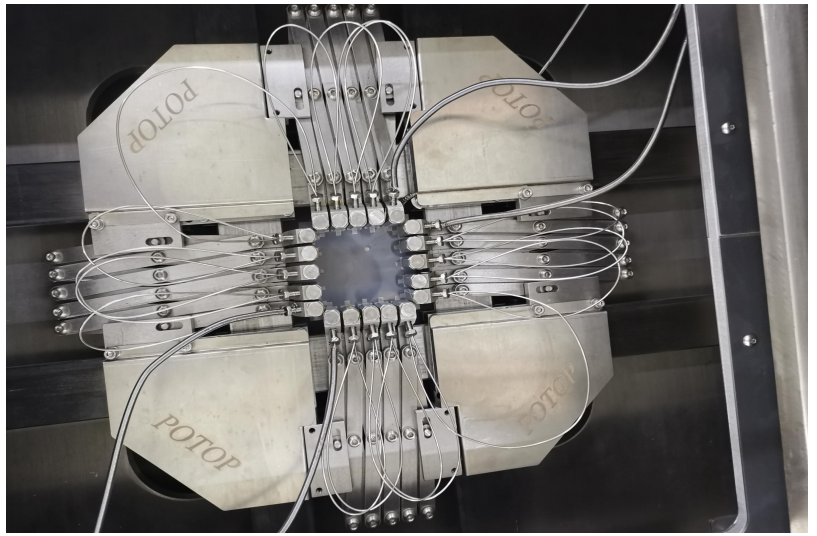
CLIP IMAGE

DETAILS OF THE FILM BIDIRECTIONAL STRETCHING MACHINE

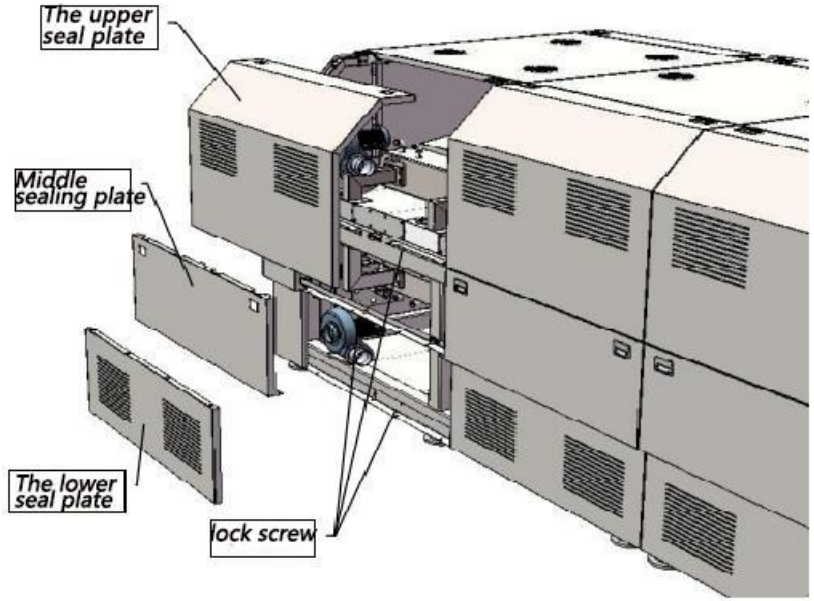




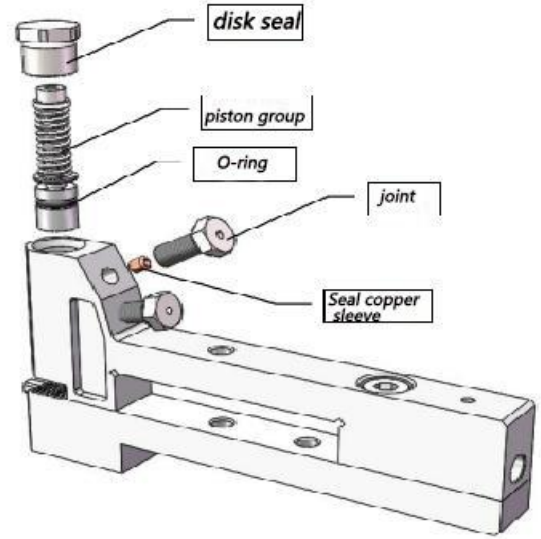








Cover removal sequence diagram



Schematic diagram of clamp disassembly

ADVANTAGES OF THE BIAXIAL STRETCHER

1. Special design stretching mechanism, heating oven, etc.;

2. All drives are driven by servo motor, with high torque,
regulation of output;

3. High-performance temperature sensor, with high test data accuracy;

4. Bi-directional synchronous stretching and custom bidirectional stretching can be realized;

5. Computer-based measurement & control system and friendly operation interface,
Easy handling and more powerful functions



WHAT ARE THE KINDS OF THE BIAXIAL STRETCHER ?

New vertical two-way stretching

1. Adopt vertical design, covering a smaller space;
2. The fixture is upgraded from manual to pneumatic clamp, which is more convenient to operate;
3. PLC control, mobile touch screen, friendly and humanized operation;
4. The operating table is equipped with emergency buttons to ensure the safety of the operators.

applied range

1. New product research and development applied in the field of thin film
2. Applied to the laboratory physical and chemical properties of film forming of new materials
3. Film formula design
4. Excellent process research and parameters



High-temperature type Biaxial Stretcher



High temperature type Biaxial Stretcher can be below 1.5mm thickness, minimum 80x80mm can be used as bidirectional tensile film material thick film sample, according to the required tensile ratio, in suitable temperature and time, for the laboratory for physical and chemical test analysis, according to the sample film properties, to determine a wide variety of additives and formula. Then, when applied to the production line, it can greatly reduce the trial production cost. Any crystalline and noncrystalline polymer that can be used in local static stretching, such as PP, PE, PET, PPVDF, etc., in new product development and formula optimization, bidirectional tensile performance test of polymer sheet films, processing process evaluation, etc. Main performance and characteristics of special design stretching mechanism, static pressure box, heating oven, hot setting box, etc.; all drive the famous brand servo motor drive, high torque, stable output; high performance temperature sensor, high accuracy of test data; can realize two-way synchronous stretching and custom two-way stretching; computer-based measurement and control system and friendly operation interface, convenient control, more powerful function.

SMALL BIAXIAL STRETCHER

INTRODUCTION



1. Special designed tensile mechanism, static press box, heating oven, etc.;

2. Siemens servo motor is driven by all the drives, with high torque and stable output; 3. High-performance temperature sensor and high test data accuracy;

4. Can realize bidirectional synchronous stretching and custom bidirectional stretching; 5. Computer-based measurement and control system and friendly operation interface, convenient control, more powerful function

Thank you





