

LAW Series-500,1000,2000,3000kN
Computer Controlled Electronic-Hydraulic
Servo Horizontal Tensile Testing Machine



Laryee Technology Co., Ltd.
ISO9000 Qualified

LARYEE
Make Test Easy

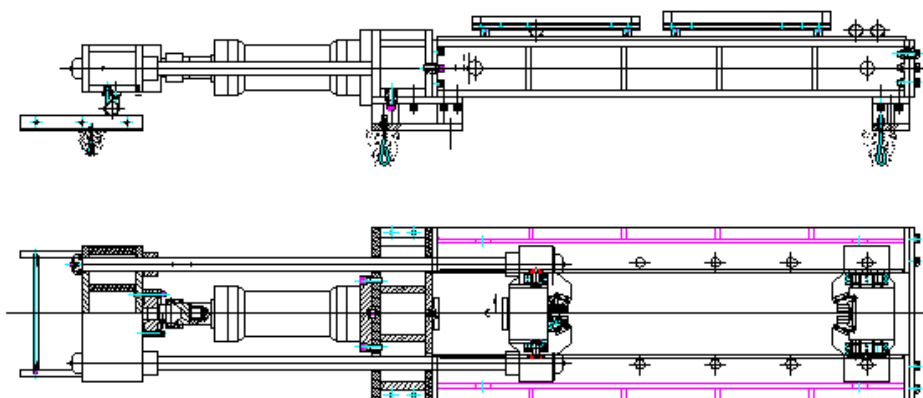
Brief Introduction

1. This testing machine with integrated steel plate welded frame structure, using single boom and double-function piston liner to load testing force and fixing specimen with cylindrical pin, load cell measuring force, several regulation grades of testing space according to length of specimen.
2. Computer control and display testing force & testing curve and process test data automatically as settled requirement.
3. This machine is specially used in one by one test for products like lifting straps, chains and ropes as it operates easily, and uploads slowing and steady and with strong bearing capacity.

Main Structure Introduction

1. Host System (as graph 1):

Host machine consists of hydro-cylinder stand, hydro-cylinder piston, shifting cross-beam, fixed cross-beam and load cell.



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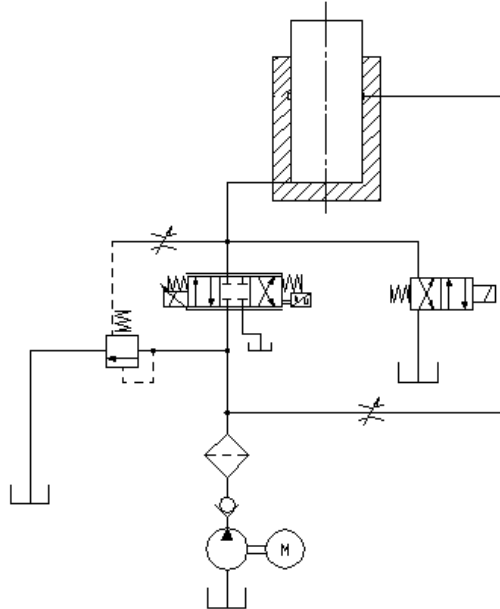
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2. Hydraulic power system:

Hydraulic power system is comprised of four parts: oil pump generator system, electric system, piping system and oil tank (including valve bank and supporting facility).



3. Controlling, measuring and display system:

- 3.1. Adopt hydraulic testing machine specially used proportion servo valve to control load of test force, operate easily.
- 3.2. Computer controls load keeping of test force.
- 3.3. Precision Load cell measures test force.
- 3.4. Computer screen displays test data, drawing test force VS time, force VS displacement curves, curves automatically switches to data for process.
- 3.5. Have whole file operation and data reserving functions, test data is finished in ASC II code format, easy for secondary digital process.
- 3.6. Test report can be printed.
- 3.7. Have completed safty protaction device.
- 3.8. When test force over 2%-5% of maximal test force of each grade, overload protection automatically turn on, system unloads.
- 3.9. When displacement of piston reaches limit, stroke protects, oil pump generator stops.

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Technical proposal

1. Host machine

- 1.1. Rack use integrated steel plate welded frame structure; main structure is comprised of front and back Clamp, oil tank and front beam.
- 1.2. Manually push back clamp stand to regulate testing space
- 1.3. Outline is designed as requirement of horizontal testing equipment; make the machine be steady, safe and artistic.

2. Loading structure : 500/1000/2000/3000KN Hydraulic Pump loading

- 2.1. Single action piston and double-direction structure is made as precise processing technique.
- 2.2. Adopt imported SPGO-HBTS seal component to ensure low damp between piston and cylinder.
- 2.3. Use load cell measure axial test force, have high precise displacement measurement with encoder.
- 2.4. The top of piston rod installed ball and socket bearing and flange plate connect it with load cell.

3. Back clamp stand displacement measure device

- 3.1. Back clamp stand is pushed manually to regulate testing space easily.
- 3.2. Displacement of back grip stand is driven by movement of sustain dolly at lead rail.
- 3.3. Testing space range:500~6000mm.

4. Hydraulic pump package

- 4.1. one set 10L/min,30Mpa constant pressure pump.
 - 1) used in 2000kN loading system
 - 2) use well-known brand motor, imported low noise, high pressure gear pump.
- 4.2. Motor is equipped with vibration damper (vibration reduction pad) to reduce vibration and noise.
- 4.3. Oil tank: whole sealing standard oil tank, 80L with oil temperature gauge, oil level indicator, precise press filter and gas filter, additionally have oil temperature, oil level and oil resistance protection and indication device. Oil filter also can be equipped as requirement of real condition.
- 4.4. Strong current controlling system: operation and control console use desk structure, placed in testing and operating area, have special operation panel make operation easily. It will stop automatically or alarm for over-limit oil temperature, filter blocked and over-low oil level.
- 4.5. Pipeline system: master cylinder loading, hydraulic pipeline of grip actuator is connected with high-pressure hose

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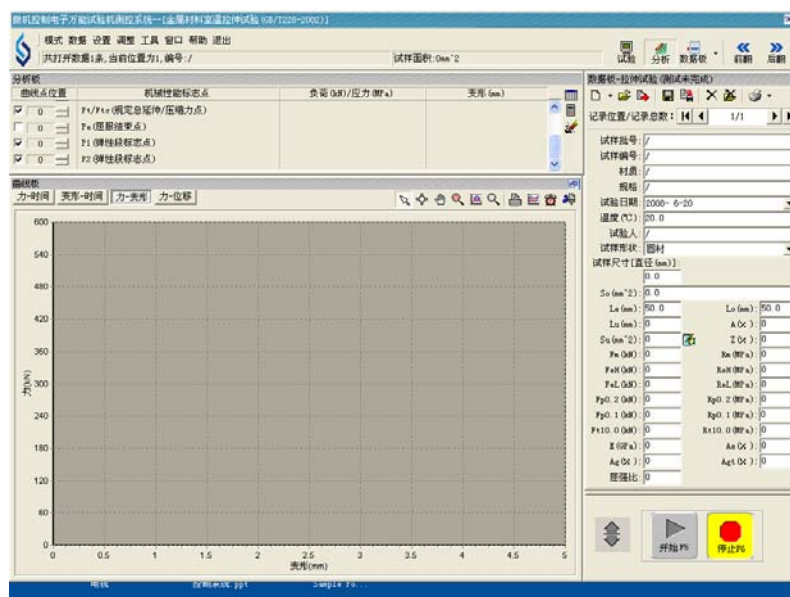
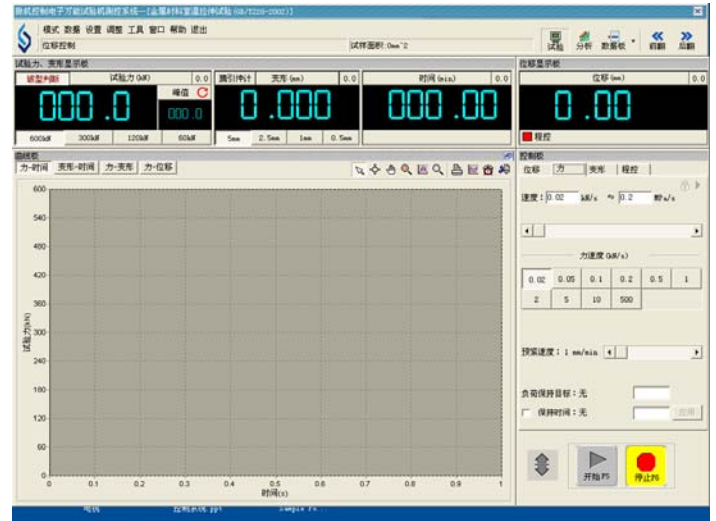
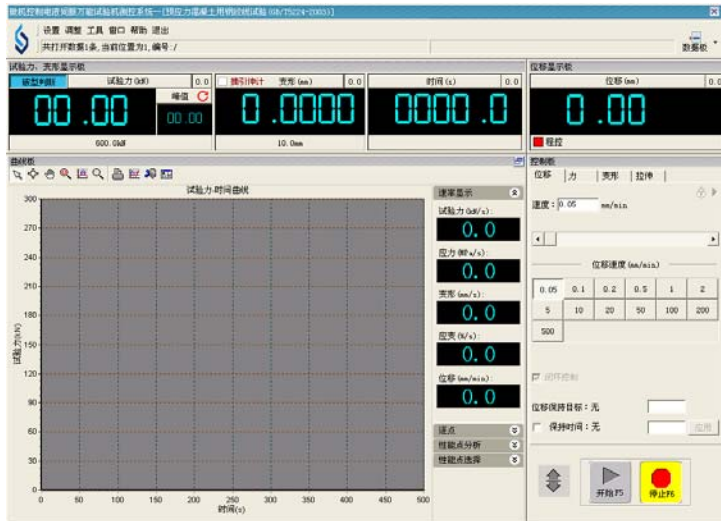
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5.Control system:

5.1. Double-channel DSP control card use full digitalized circuit, with the same structure, improved interchangeability of each channel.

5.2. Computer Screen control and display show data and test curve.

5.3. Have complete data saving, historical data and picture representation function.



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Specification

Parameters	LAW-500	LAW-1000	LAW-2000	LAW-3000
Max test force	500KN	1000KN	2000KN	3000KN
Measuring range of testing force	10~500KN	20~1000KN	40~2000KN	60~3000KN
Accuracy of testing force	$\pm 1\%$			
Resolution of testing force	1/300000 of maximum force and no subsection of all scale			
Testing space	500-6000mm(not including piston stroke)			
Max piston stroke	1000mm			
Displacement measuring range	1000mm			
Resolution of displacement measurement	0.01mm			
Pull head load fast-forward speed	$\leq 200\text{mm/min}$			
Testing speed	0-80mm/min			
The height of test center	350mm			
Specimen clamping means	According to customer's specimen			
Diameter of wire rope	According to customer's specimen			
Power supply	380V $\pm 10\%$, 50/60Hz			
Overall dimension of host machine	9000x1200x500mm			

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Standard parts of LAW

Description	Remarks	QTY
Host system		
Low-friction cylinder	Brand seals, sealing reliable, use smoothly, ensure the service life of hydraulic cylinder.	1PC
Cylinder Seat		1PC
Movable cross-beam		1PC
Front and back clamp stand		1PC
Main frame	with steel plate welded structure	1PC
Compression sphere Plates	data calibration used	1 set
Hydraulic power system		
High Pressure Pumps	10l/min, 30Mpa	1PC
well-known brand motor	4.5kW	1PC
Oil tank	80L	1PC
high-pressure filters		1PC
The proportion servo valve, safety valve		1PC
Electromagnetic relief valve		1PC
Pressure Gauge		1PC
Air filter		1PC
Level Gauge		1PC
Computer control system		
Five-channel program-controlled digital amplifier module		
All kinds of AD, ID module		1SET
Windows 2000/XP set of industrial control software		1SET
Load sensor, Displacement Sensor		Each 1PC
Control system		
Lenovo Business Machines		1PC
17 LCD Monitor		1PC
HP inkjet printer		1PC
Pipe system		1SET
Operation Cabinet		1SET

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