

## Servo-hydraulic Compression Testing Machine | HCT Type A

### Capacity

300kN, 600kN, 1000kN, 2000kN, 3000kN

### Functions

This series of compression testing machine is widely used for compression strength determination of cement, concrete and rock. Equipped with optional fixtures and measurement devices, it can be used for concrete splitting tensile test and flexure test.

### Standards

BS EN 12930.4, ASTM C39, GB/T 50081(Part 6)



### Load frame

1. Compression space is adjusted by padding block
2. Ergonomically designed load frames ensure safety, reduce operator fatigue, and provide the highest level of flexibility.
3. "Quick Return" hydraulic valve for higher throughput
4. Automatic limit checking for overload, over temperature, over voltage, etc.
5. The system can return automatically, the oil cylinder can return the original position via manual or automatically after finishing testing
6. Imported encoder mounted on the seat is for position measurement of piston with high accuracy
7. Imported servo valve provides high stability and reliability

## Load cell

- Built-in load cell is assembled inside the piston for direct measurement with high accuracy
- High precise load cell measures and captures sensitively tension and compression force, high accuracy load measurement resolution reaches 1/350000 with no steps.
- American brand load cell ensures high precision and repeatability.

## Controlling system – DTC-350

1. Closed loop control of stress, strain and displacement.

Control loops can switch automatically and smoothly. Control algorithm adopts advanced neural element self-adapting PID. Neural element has ability of close to any non-linear function , simple structure and learning algorithm. It can adapt changing of control object by changing its own synapse weighting and distinguish parameter on line, rebuild object model on line.



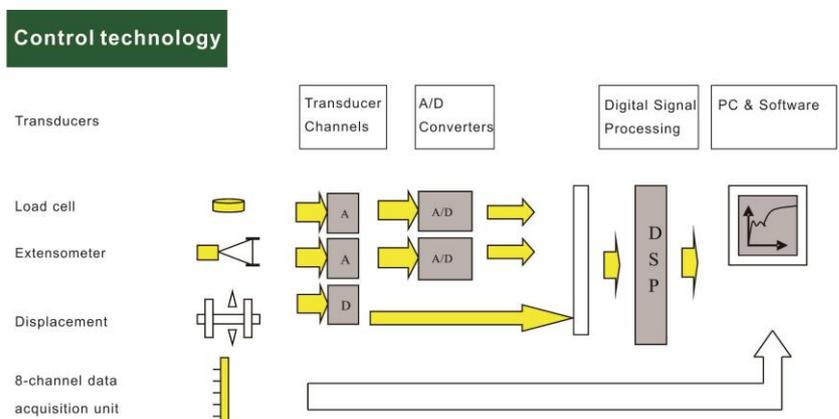
2. Control system based on DSP

DSP, the professional CPU and RISC, is used as control chip of the products. The chip has many functions, such as 40MIPS, 32-digit fixed point, vector control, A/D exchange, position capturing , etc. It is a CPU widely used in industry controlling and suitable to be IC of our products.

3. USB 1.1 communication

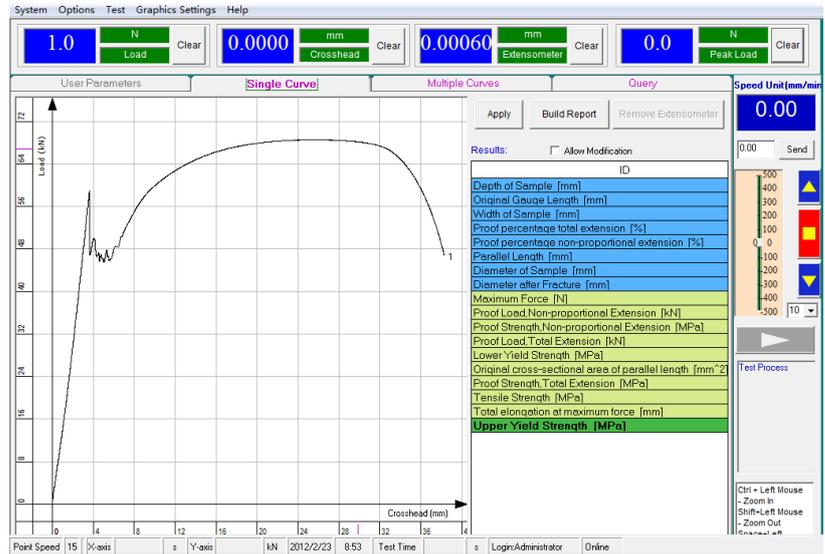
Data exchange between hardware and software via USB 1.1 interface and velocity of 12Mb/s. USB is main direction of development of communication, which has merits of high communication velocity, variety of communication mode( such as controlling , breaking, batch, real time ,etc.), and will be the main mode of communication.

4. Data acquisition system and position capturing system. Data acquisition system consists of 8 channels of 24 bit A/D exchange; effective resolution is 1/350000 with non-step in full range . Exchange velocity and gain are programmable on line. The products contain 3 channels of encoder position capturing system permitting photo-electric orthogonal code impulse. Frequency can reach 5 MHZ, which has functions of correcting, direction identifying and number-counting.



## Two steps to start testing: select a project, press start

This software features a large, growing host of pre-packaged test methods to help you quickly and efficiently meet the requirements of global test standards such as ASTM, ISO, DIN, EN, BS, and more. Selected by an operator at runtime, these methods are crafted to meet the specific test flow, analysis and reporting requirements of industry standards across a range of specimen and test types. Pre-packaged test methods are available in a wide selection of bundled sets, including: Polymers & Plastics, Metals, Construction Materials, Biomedical Products, Paper Products, Adhesives, foam, textiles and more.



- Versatile, easy-to-use TestPilot software with a large and growing library of standards-compliant test methods (ASTM, ISO, DIN, EN, BS, and more)
- Modular design permits easy upgrading
- Plenty of test standards are built in the library of the software for routine tests.
- User configured report: user can preset report template and include necessary information, like company information, statistics, and etc. Test report can export to Excel or Word.
- Powerful graphic function: real time display curves, like displacement-load, stress-strain, displacement-time, load-times, and others
- Powerful analysis function can calculate typical value and display on the curve, like Fm, ReL, ReH, Rp.
- Measurement unit: Users can select SI, or others, like N, kN, Kgf, lbf, Mpa, and so on, user can define the unit by themselves using formula.



Modular design is simple for operation and upgrading

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## Specifications

Model	HCT305	HCT605	HCT106	HCT206	HCT306
Type	Type A				
Capacity (kN)	300	600	1000	2000	3000
Calibration accuracy	Class 1				
Force accuracy	±1%				
Force range	1% ~ 100%FS				
Force resolution	1/350000FS				
Frame structure	2 column		One-body casting		4 column
Column spacing (mm)	280	320	520		440×440
Maximum compression space (mm)	260	320	300		400
Platen adjustment	By padding block				
Compression platens (mm)	Φ160	Φ234	Φ300		Φ300
Actuator (piston) stroke (mm)	135				200
Actuator (piston) speed (mm/min)	0-200	0-130	0-80		0-60
Force loading speed (kN/s)	0.02% ~ 2%FS/s				
Actuator (piston) direction control	Single direction cylinder		Dual direction cylinder		
Frame dimension (LxWxH) (mm)	1000×480×1640	650×500×1650	820×460×1480		720×720×1760
Hydraulic Power Unit dimension (LxWxH) (mm)	Built into frame	1150×600×900			
Power consumption (kw)	6	6	6		6
Weight (kg)	1200	1500	2000		3000