

## CHT4000 Series Hydraulic Universal Testing Machine



CHT4000 series with manual valve to control loading



### Configuration

CHT4000 series features manual hydraulic loading system and motor driving and a rugged four (below 300kN) or six column construction for exceptional load frame rigidity. It has dual spaces for tension test and compression test or other tests (need corresponding grips) respectively. An adjustable lower crosshead quickly accommodates specimens of varying lengths. In the case of additional length of columns, the maximum testing space is adjustable to meet extra length specimens. Positive specimen holding is ensured by the wedge action of hydraulic operated grips.

The machine is equipped with manual valve to control force loading and has an operating range from 200kN to 2000kN and maintains an accuracy of  $\pm 1\%$  of the displayed load from 2% to 100% of capacity.

## Functions & Applications

CHT4000 series are guaranteed to meet ISO 15579-2000, ISO679, ISO 7438-1985, ISO6892-1998, ISO4012, ISO10065 and other international and national specifications ,which are suitable for tension ,compression and other tests(need corresponding grips) on materials and assemblies such as metal rods , metal sheets , steels , fasteners , cement , concrete etc .

With powerful testing software PowerTest, SHT4000 series' systems can acquire, dispose automatically testing data, display real-timely stress-strain curve, load-deformation curve, load-time curve and other related curves, at the same time, can save, output, print test report and data with customized format.

With knight after service of experienced experts and assistant controlling of powerful professional testing software PowerTest, the machine can be widely used in ultimate R&D department, Universities and Academies, Quality control and Inspection department, calibration centers/laboratories and concerned industries etc.

Hydraulic power station with MANUAL VALVE for CHT4000 series



Fig.35:Close-up of instrument panel of CHT series (Left) and SHT series (Right).

**Key features**

1. Load measurement: adopting load transducer to ensure high accuracy, reliability and consistency;

2. Displacement measurement: adopts optical encoder with high accuracy and stability;

3. Compact structure: with dual testing spaces and easy to adjust testing space to carry out different test of varying-length specimens;

4. Clamp automatically: uses hydraulic grips with reliable holding;

5. Multi-protection: protection of over-load by software and hardware; position-limited



CHT4205/4305

CHT4000 series (200kN/300kN)

protection of piston and lower crosshead;

6. Verifying automatically: verifying automatically of load, deformation and displacement according to corresponding specifications;

7. Parameters' acquisition: can be acquired according to requirements of customers;

8. Management of test data: uses Access, Excel and other such kind software to communicate with testing data base;

9. Stable performance: little influence of temperature and voltage;

10. Self-centering: equipped with self-centering unit on load frame, which can verify automatically center during test to ensure coaxial extent of testing machine.



CHT4206

CHT4000 series (2000kN)



CHT4000 series (600kN)

CHT4605

## Accessories

Video extensometer with accuracy of  $\pm 0.1\%$  of indicated value is available according to order.

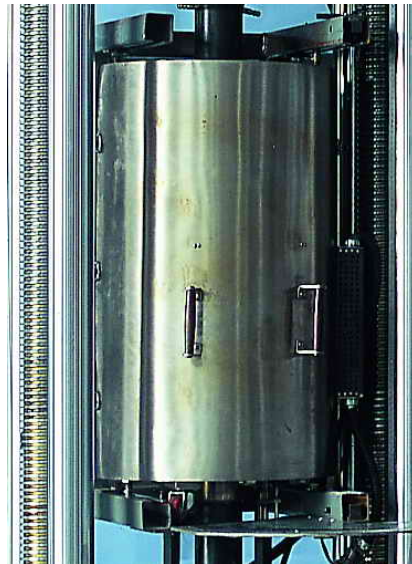
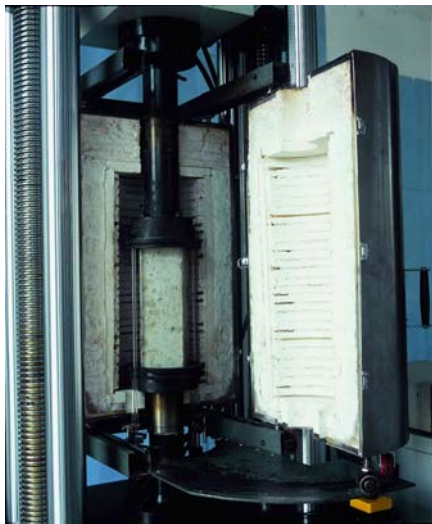
Extensometer can directly measure deformation of specimens by quartz-pole. It either measures separately thermal expansion strain of specimens or eliminate thermal expansion to avoid effecting deformation of specimen.

The video extensometer

measures contact-free, and with high resolution, tensile and compression deformations on all types of plastic, metals, rubber, composites, panels and foils. It is also suitable for determination of reduction-in width, and the yield strength in tensile tests according to EN 10002-1.

Optional high temperature chamber/furnace is available according to

requirement .It adopts electric stove warming and can meet testing temperature requirements from ambient temperature to  $1200^{\circ}\text{C}$ .The temperature of chamber/furnace can rise according to the preset and keep invariable ,and can be controlled subject to warming curve preset.



Optional high temperature furnace

## Technical Specifications

Series	CHT4000			
Models	4205/4305	4505/4605	4106	4206
Accuracy Level	1			
Load Capacity (kN)	200/300	500/600	1000	2000
Number of Column	4	6	6	6
Distance between Columns (mm)	460	495	510	730
Maximum Tensile Space (mm)	630	850	850	1000
Maximum Compression Space (mm)	560	700	700	800
Diameter of Round Specimens (mm)	Φ10-Φ32	Φ10-Φ40	Φ15-Φ60	Φ20-Φ80
Thickness of Flat Specimens (mm)	2-25	2-30	2-40	10-70
Diameter of Compression Platens (mm)	Φ120	Φ150	200×200(cube)	Φ240
Ram Stroke (mm)	150	250	250	250
Stroke Speed range (mm/min)	0-195	0-145	0-100	0-75
Crosshead Speed (mm/min)	280	270	320	300
Dimension of Load Frame (L×W×H) (mm)	820×570×1955	940×650×2400	1020×670×2600	1500×900×3340
Dimension of Hydraulic Power Station (L×W×H) (mm)	1150×600×900			
Total Power (kW)	3	4		6
Weight (kg)	1500	2500	3500	8000

## Specifications

**Load measurement accuracy:** ± 1% of indicated load from 2% to 100% capacity

**Load measurement resolution:** 1/300000 of capacity, no steps in full loading range and keeping unchanged

**Displacement Resolution (mm):** 0.013

**Deformation Measurement Accuracy:** ± 1% of indicated

**Operating temperature range:** 0°C to 38°C

**Storage temperature range:** -10°C to 45°C

**Humidity range:** 10% to 90% non-condensing, web bulb method

**Power:** standard optional voltages 220/240VAC, 50-60 Hz; power must be free of spikes and surges exceeding 10% of the nominal voltage (CMT5000 needs voltage in 380V±10%)