



Over **60** years of consistent excellence

Electronic Four Column Compression Testing Machines

Model : CTE 200 & 300 4C



Features :

- Straining at variable speeds to suit wide range of materials.
- Panel & PC graph enables to study the behavior of material.
- Rigid fix cross-head straining unit.
- Simple controls for ease of operation.
- Simplicity in readings because of digital read-outs.
- Safe operations ensured by means of safety devices.
- Fully enclosed and protected pressure Transducer.
- RS 232 serial port to transfer data to computer for analysis, storage, evaluation etc.
- Manual control and release valve operation.

Application :

The CTE 4C type compression testing machine is designed for conducting specifically compression test on concrete blocks, stones and many other similar materials.

Principle of Operation :

Operation of the machine is by hydraulic transmission of load from the test specimen through pressure transducer to a separately house load indicator. The system is ideal since it replaces transmission of load through levers and knife edges, which are prone to wear and damage due to shock on rupture of test pieces.

Load is applied by a hydrostatically lubricated ram. Main cylinder pressure is transmitted to a pressure transducer house in the control panel. The transducer gives the signal to the electronic display unit, corresponding to the load exerted by the main ram. Simultaneously the encoder fitted on the straining unit gives the mechanical displacement to the electronic display unit. Both signals are processed by the microprocessor and load displacement on digital read-outs simultaneously.

Machine consist of :-

1) Loading Unit-

Fabricated base clamped to four columns by nuts. And the piston slides in the cylinder a cover is provided on the piston to protect it from dust. Thick top plate is clamped on the upper side of the four columns by nuts. Upper Compression plate with swiveling is attached to top plate and lower compression plate is kept on the piston. Three packing stools are provided to keep the required vertical clearance so the machine is of fixed crosshead type.

II) Control Panel :

The control panel consists of a power pack complete with drive motor, oil tank, control valves and electronic display unit.

III) Electronic Control Panel : (Series Universal 2001-UTE) :

Microprocessor based panel incorporating state of art technology with following feature.

- Front panel membrane key board with numeric keys for data entry.
- 7 segment display to show load and compression.
- Data entry of test parameters including rupture % peak, pre-load, module data, test data & specimen data etc. through numeric key board.
- 20 input data set storage , 50 results storage.
- Maintains data & results during power off.
- Each test facility for generating batch and statistics result.
- Printer port for dot metrics printer interface to print graph and results, batch certificate and simple statistics printout.

Optional Software Packages on PC :

The Universal 2001-UTE series control panel can be hooked to any PC using RS-232 communication port. FIE offers different exhaustive application, Window based software package with real time graphon PC to enable that user to effectively evaluated different parameters.

The features include :

- Real time graph, user friendly software
- Extensive graphics on screen for curve plotting, magnification and zooming.
- Statistical evaluation with water fall dig, mean deviation, frequency distribution, skew dig, histogram also calculates max. value, min value, Mean value, Variance, Standard Deviation (Other statistical parameters on request). Selectable batch statistical printouts.

IV) Accuracy and Calibration :

An accuracy of $\pm 2\%$ is guaranteed from 2% to 100% capacity of machine. Load verification of the testing machine meets the requirement of BS: 1610-1964 and IS: 1828:2000.

***PC and Printer is not in our standard scope of supply.**

Specifications :

MODEL	Unit	CTE 200 4C	CTE 300 4C
Maximum Capacity	kN	2000	3000
Measuring Range	kN	0-2000	0-3000
Load resolution (20,000 counts full scale)	kN	0.1	0.15
Load range with accuracy of measurement from 2% to 100% capacity of M/c		$\pm 2\%$	$\pm 2\%$
Resolution of piston movement (Displacement)	mm	0.1	0.1
Max Horizontal Distance	mm	270	350
Max. Vertical Distance	mm	400	350
Ram Stroke	mm	90	90
Upper Compression Plate Diameter	mm	245	300
Lower Compression Plate Diameter	mm	245	300

FIE reserves the rights of change in the above specifications due constant improvement in design. The dimensions given above are all approximate.

