

UNIVERSAL TESTING MACHINES



HL590

Electronic range of universal testing machines are fast, accurate & simple to operate. In these machines load and displacement are displayed on the digital display system in their respective engineering units. Digital display unit have RS. 232 communication port. When connected to computer online graph can be displayed on the screen . It is supported by windows based software which can store, retrieve readings as and when required.

The machine is capable of performing the following tests:-

- Tension
- Compression
- Transverse
- Bending
- Shear
- Hardness

There are three main units :

- Loading Frame
- Hydraulic Pumping System
- Electronic Control Panel

a) Loading Frame

The Loading Frame consists of a central cross head and a lower table. Center cross head is adjustable for clearance by means of a geared motor. Compression Test is carried out between the central cross head and the lower table whereas tension test is carried out between center and upper cross heads. **The unit have six pillars for better stability.**

Sensing of load is through a strain gauge based transducer, while the movement of the lower table (ram stroke) is measured by rotary encoder. Safety feature like, over travel limit of center cross head, over travel of ram, over range of load are provided as standard with the machine.

B) Hydraulic Pumping System

Hydraulic Pumping System consists of multi plunger pump powered by a suitable motor. Maximum circuit pressure is around 210 bar. This pump gives a continuous non-pulsating oil flow to the ram of the loading frame. Pressure switch is provided for additional safety against over load. Release

valve and load control valve is placed at a convenient position for easy operation by the operator.

It also have electrical Control Panel for the movement of the cross-head and also for the main pump. Additional switch is provided for fast lift of the ram for initial filling of the gap.

A rotary encoder is fixed along with the ram of the hydraulic unit which indicates the movement with a least count of 0.1 mm. The output of the sensor is fed to the digital indicator unit for further processing and display.

C) Electronic Control Panel

Digital display system is totally microprocessor based. It has RS. 232 for communication with the computer. The system is supported by window based software. On Line graph of load vs displacement is displayed on the monitor. Analogue readings as well as graphical representation is stored in the file which can be retrieved on demand.



Other technical Specifications :

- 8 bit Processor with multiprocessing facility.
- LCD Panel with 4x20 characters.
- Printer facility (printer not part of the supply)
- Key board with 16 keys.
- A direct PC connection using RS 232 port connected with D39 connector.
- Flash memory of 512 KB.
- Serial to USB Converter with 10,000 Bits/Sec. transmission facility.

Key board has the following programmable facilities.

- The START key includes information on the Mode of Test, Pace Rate, Load and Peak Load.
- The STOP key includes the facility of saving data of the test conducted and starting of the next .

Optional Accessories:-

Computer:- (PENTIUM-IV)

3.0 Ghz or Higher , 80 GB HDD,
512MB RAM, 52X CD Rom Drive,
Key Board, Mouse, 15" Colour Monitor
Printer (As per requirement).