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## Fully Automatic Compression Testing Machine ZI 2060

Standards: IS 14858:2000, EN 12390-3, EN 12390-5, EN 12390-6, EN 1338, EN 1340, EN 196

Specification:

**Capacity:** 2000kN & 3000 kN

The Fully Automatic Compression Testing Machine from Zeal International has been designed to meet the need for reliable and consistent testing of concrete samples. All **Labtest Compression Testing Machines** feature the complete automatic test cycle with a closed loop digital readout. Once the specimen parameters have been introduced, it is sufficient to press the start button to complete the test. Labtest Compression Machines consists of their main parts: Frame, Power Pack and Data Acquisition & Control System. Each part has been designed to manufacture machines with a high degree of mechanical stability.



### Features:

- Automatic test cycle with standard rapid approach
- Graphical - LCD data acquisition and control system
- Menu driven software for easy operation
- Load vs time plot and instantaneous load rate displayed
- Accurate load rate control within  $\pm 5$  from 1 kN/sec to 20 kN/sec
- Class 1 starting from 10% of the full range

- SI, Metric, Imperial units
- Data storage up to 10000 specimens
- Free of charge PC software for test control and advanced report printout

### **Frame:**

The load frame is a welded steel fabrication carrying the ball-seated upper platen. Positively located on the loading ram which is protected from debris by a cover, the lower platen is marked for the centering of cube and cylinder specimens. The dimensions of the frame allow the testing of concrete cylinders up to 320 mm long x 160 mm diameter; 100, 150, 200 mm cubes. All machines are supplied complete with 50 and 100 mm solid machined distance pieces. To test samples shorter than 150 mm extra distance pieces should be ordered. All machines are supplied with front and rear removable safety doors. All frames have a single acting upstroking ram with over travel protection to stop the motor when the maximum platen travel be reached.

### **The main characteristics are:**

- High stability welded assembly
- 50 mm piston stroke with safety limit switch
- Platen hardness of min 55 HRC
- Distance pieces and safety door included
- Ball seating assembly and frame tested for stability

### **Data Acquisition And Control System:**

TFT LCD graphic data acquisition and controls system is designed to control the machine and processing of data from load cells or pressure transducers installed on the compression machine frame. The easy to read LCD graphic display and touch-button data pad keys make the unit quick and straight forward to operate. All interactions with the measuring system are via the front control

panel by using simple menu-driven procedures. The control unit is contained in light alloy housing and its design satisfies the ergonomic requirements for various use. The control unit digital graphic display allows real time load vs time graph or stress vs time graph. At the end of the test cycle, the results can be stored in the large memory or downloaded to a PC in Labtest software format. Dedicated software package is available for further online data processing, database management and certificate printing, which can be customized by the user.

### **The Main Characteristics are:**

- High resolution 65535 pixel color resistive touch screen
- Standalone full automatic testing capacity
- CPU card by microprocessor 32 bit arm risk architecture
- Can make manual tests if required
- Large permanent memory up to 10000 test results
- One Ethernet port for connecting either PC or printer for data transmission
- Four analogical channels, use for load cell or pressure transduce
- A sample type and dimensions can be entered respect to the standard
- Language select: Multi Language Support
- Can control two frames (Compression & Flexural)
- 3 different unit selection: kN, Ton, LBF

### **Power Pack:**

Dual stage power pack which is controlled by is designed to supply required oil to the frames. Very silent Power pack can load a specimen between 1 kn/ sec to 20 kN/sec. On the dual stage pump high delivery low pressure pump is used for rapid approach and low delivery high pressure radial piston pump is used for test execution. On all

power packs maximum pressure valve is used to avoid machine overloading.

### The Main Characteristics are:

- Dual stage pump (Low Pressure Gear Pump and High Pressure Piston Pump)
- 750 W power
- 20 liter oil capacity
- 60-100 mm/min fast approach speed
- Automatic release of hydraulic system on breaking of specimen
- USB flash disc for importing test result and for software
- Real time clock and date
- 10 data per second sample rate for each channel
- 1/256000 points resolution per channel

### Safety Features:

All Labtest compression testing machines are fitted with:

- Max pressure valve to avoid machine overloading
- Ram travel switch to prevent excessive piston travel
- Front and rear gates for safety
- Emergency stop button
- Software controlled maximum load value

***Fully Automatic Compression Testing Machine can be used to perform various compression and strength tests in a laboratory. It can also be used to test Concrete Cube Moulds, Beam Moulds and Cylindrical Moulds.***

### Specifications:

Model		ZI 2060A	ZI 2060B
Capacity	kN	2000	3000
Standard		IS 14858:2000	IS 14858:2000
The roughness value for texture of loading and auxiliary platens	µm	< 3.2	< 3.2

Lower platens dimensions	mm	Ø300	Ø300
Upper platens dimensions	mm	Ø300	Ø300
Maximum vertical clearance between platens	mm	340	340
Piston diameter	mm	250	300
Maximum piston movement	mm	50	50
Horizontal clearance	mm	360	380
Power	W	750	750
Oil capacity	Ltrs.	20	20
Maximum working pressure	Bar	410	410
Dimensions (W x L x H)	mm	810 x 500 x 970	840 x 540 x 1050
Weight	Kg.	795	1050