



BROCHURE MAKE: VERTEX

**SERVO CONTROLLED HYDRAULIC
COMPRESSION TESTING MACHINE**
Capacity (2000kN (200Ton))
MAKE IN INDIA

IS: 14858:2000 | IS: 516 | BS1881
MAKE IN INDIA





MAKE: VERTEX | MODEL: VSLIC-C290 | PART NO: VS091739

With 1-year NABL Calibration Certificate.

Product Overview

The detailed Specification of the system is given below:

VERTEX Automatic Servo controlled Compression Testing Machine is capable of conducting compression tests on concrete specimens and allied products. These compression testing machines are state of the art machines based on the principal of CLOSE LOOP. The system can be loaded in load, displacement or strain control basis. The system accuracy is better than $\pm 1\%$. A special type of 4-piece oil filled spherical seating is provided conforming to IS 14858-2000.

The system has an arrangement for automatic pacing system, which is achieved by the combination of advance hydraulic and electronic system. Control signal from the electronic system is passed on to the servo valve through P.I.D. Controller which in turns control the flow to the hydraulic ram thereby keeping the pace rate within permissible limit of the pre-programmed value.



NOTE: The machine is supplied with windows-based user friendly for Data acquisition and analysis. It has the features for on line graphical presentation in addition to the numerical test results.

1. Servo Controlled hydraulic compression testing machine.
 - A. Working Pressure will be in between the range 200 bar to 500 bar.
 - B. Displacement should be in the range of 0.1mm to 25mm per minute.
 - C. Appropriate Data logger with continuous data logging rate.
2. Operating load Capacity of the compression testing machine shall be in the range of 40kN to 2000kN.
3. The load resolution/least count should be 0.2kN or better.
4. With Software providing along with compression testing machine for Operating Machine and Data acquisition Software.
5. Software should be compatible with computer specification having minimum Intel i-5(64Bit), 4GB RAM, Windows 10, 500GB Hard Disk. Computer will be at the scope of supplier along with the testing equipment.
6. Load measuring accuracy should be $\pm 2\%$ of the applied load or better.
7. Automatic stop of load increase on fracture of the test sample.
8. Electrical will be single phase (200v $\pm 8\%$) is to be given. Frequency will be 50 cycles (Hertz) per second.
9. Both the upper and lower compression plate dia. should be 270mm or more. Which can accommodate standard refractory brick 230mm x 115mm x 75mm (Maximum).
10. Surface hardness of the both the top and bottom platens should be in the range of 58 HRC to 62 HRC.
11. Warranty will be three years.

Salient Features:

- Conforming to Testing Procedures laid down in various national and international standards for building material/ concrete specimen
- Suitable for static and low frequency dynamic tests on rock, concrete and other building materials.
- Based on SERVO HYDRAULIC CLOSED LOOP FEEDBACK control mechanism
- Capable to control multiple frames (up to 4 from same hydraulic power pack)
- Fully Computer Controlled operation with User friendly Software
- Controlling on Load or Displacement or user supplied strain gage (quarter Bridge) or External displacement sensors as mounted on specimen
- High stiffness compression loading frame



- High speed Data Acquisition card with 100 kHz sampling rate
- Programmable Rate of Loading (Pace Rate) in all control modes, including user input file for loading/hold/unloading applications
- Facility to change the parameter like rate of load or rate of displacement without stopping and restarting during testing
- Facility for setup and execution of monotonic, cyclic and user defined test procedures
- 8 Additional input channels for external transducers such as load cell, pressure transducer, LVDT etc. and the same can be used for controlling also
- Windows based user-friendly Application Software for controlling and data acquisition
- Start, Stop, Hold operation through computer
- Inching/Release operation to set Sample
- Auto release facility after specimen failure
- Facility in the software to study Post failure behaviours of specimens
- Online Plotting of Graphs (Load v/s Displacement, Load v/s Time, Displacement v/s Time) with display of data
- Advance Statistical Analysis
- Safety Limits for Over Load, over travel etc.

The following safety features are incorporated in the system

1. Over Load protection
2. Over Travel protection
3. Front door for operator safety
4. Low oil level Indicator
5. Protection against contamination of oil











Analysis Software

Plotting of following graphs-

- a) Load v/s Time
 - b) Displacement v/s Time
 - c) Load v/s Displacement
 - d) Stress v/s Strain
 - e) Stress v/s Time
1. Calculation of various results (Compressive Strength, Flexural Strength, Flexural toughness etc.)
 2. Facility to plot the data for a selected run
 3. Comparative analysis using multi graphs
 4. Statistical analysis of the test results
 5. Batch Summary Report Generation
 6. Detailed Summary Report Generation
 7. Facility to print Test Reports
 8. Facility to Export Data to MS Excel

Touch Screen HMI Layout

[Base Screen Image List]

1:WELCOME[OFF] 	2:MENU[OFF] 	10:TEST SCREEN GRAPH[OFF] 	21:Specimen/settings[OFF] 
31:Type[OFF] 	33:Test parameters[OFF] 	35:Test Result[OFF] 	36:Calibration[OFF] 



The system has following main components:

- Loading Frame
- Hydraulic Power Pack
- PC Based Control System and Application Software
- Additional Accessories

Note:

1. CALIBRATION

- a. This Machine Verified by NABL Accredited Testing Laboratory from DRS Engineering & Calibration Services, Noida this Calibration Certificate Validity for 1year.



WARRANTY TERMS

- b. 2-year CMC after expiry of standard warranty at extra cost.
- c. During the period of cover, VERTEX shall remedy any complaints due to manufacturing faults and material defects free of charge. Such remedy shall be at the discretion of VERTEX either repair, replacement of faulty parts or full product exchange for a faultless product of equal value. The product warranty does not allow for any other claims beyond those mentioned above on any legal basis. Replaced products or parts become the property of VERTEX.

2. SERVICE CENTER

- a. We have authorized Repair, Service & Calibration Service Centre mention below location.
 - Karnataka
 - Pune
 - Aurangabad
 - Guwahati
 - Northeast
 - Orissa
 - Coimbatore
 - Nepal

