Automatic Cement Compression/Flexural Machine
CE404/CE403

Impact Test Equipment Ltd
www.impact-test.co.uk & www.impact-test.com
1. General Information:

Touch screen electronic controllers are designed to perform all kinds of tests with high precision and accuracy on different type and size of specimens. Special closed loop algorithm provides accurate loading of class 1 or better.

1.1. System overview:

Specially designed rigid 4 column frame construction allowed accurate alignment of lower and upper blocks and provide extra strength to machine. Upper ball seated compression platen can align itself according to specimen while specimen touch it during the test.

IMPACT has introduced new Instant-Servo Technology which makes our hydraulic power pack superior. This special technology works like a servo valve which allows accuracy in lower pace rates also. Pressure transducers used with special arrangement of hydraulic system to read load.

The control unit has a capacitive touch screen and Linux based special IMPACT Testing Software for compression applications. It has 4 channels and 24 bit reading accuracy. It has 4 GB internal memory and SD card support up to 32 GB. Direct internet connection is possible through LAN connection, and also there is a USB port for exporting test results.
2. Installation Guide:

IMPACT hydraulic compression machine is easy to install on its place. Frame has an eye bolt (see P: 1) on the top to un-pallet frame by using an overhead crane. Hydraulic unit of machine normally attached to frame while leave factory to avoid calibration errors. It should be handled with care during installation.

(P:1)

Take distance platens carefully from pallet and put inside the machine after completion of installation. A hardened platen comparatively bigger in size should be on the top for all heights.

Machine works with 220V / 50Hz electrical supply. A power cable comes with machine should be attached to hydraulic unit. There is a power button to turn power supply of machine.
3. Setting up machine:

3.1 Mechanical over view

After installation to set up machine for first time, make sure all hydraulic and electrical connections are ok and distance pieces are present in machine. Distance pieces are important and should be selected according to the size of specimen.

3.2 Software overview

When the machine is started, Touch Screen controller also starts automatically and shows Main Menu.

✓ This screen contains 3 buttons that allows access to the screens described below:
4. Main Menu

- First of all, press the Test Setting button for set up needed features to test.

4.1 Test Settings

4.1.1 Measurement

- When the press Measurements button, load and stress units and precision points can be changed easily.

- Load units can be selected as N, KN, kgf and kipf.
- Stress unit can be selected as GPa, MPa, KPa, Pa, bar and psi.
4.1.2 Dimensions

- The shape of the sample to be tested can be selected via Dimensions button.
- After that dimension and weight feature can be adjusted thanks to subheading.

The density of the sample is calculated automatically entering the weight of the sample in water and air.
4.1.3 Test Procedure

- Pace rate and zero bound can be selected via Test Procedure button.
- Pace rate units has two options as KN/s and Mpa/s.
- Should be selected Automated Start Procedure option for start the test automatically.

"Zero Bound" tab allows to be taken test results after the value of load which is set.
- It is prevented to affect the changes of test results in the nominal area at low loads.
4.1.4 Test Data

With Test Data button, can be write a title and value for results.

You can add a report header.

You can delete a saved report header.

You can edit a saved report.
4.1.5 Break Detection

- With *Break Detection* tab, "broken detection" feature is utilized automatically. Through broken detection feature can be set to break at the desired level during experimenting and experimental data can be obtained in a healthy manner.
- Broken detection feature stops until entering value with *Fail Threshold* tab and thus, the test can not be terminated because of errors that may occur in the sample at a low load. The testing will continue in a healthy way.
- *Percentage Drop* automatically terminates the test by calculating the percent force reduction.
- *Load Drop* tab terminates automatically senses the load decreases according to the value entered as user defined.
- Press "Save" button for recording a results after making the necessary settings.
4.1.6 Standards

The new parameters can be recorded and stored standards can be opened by "Standards" tab designed to create as can be record all parameters and standards. After the all setting, the user should save these changes.

- User access the main menu after press the back button.

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(P:11)
To start the test, press Start Test button in main menu.

For the make a cosine test or ramp test, you should press button below.

- The user can change speed value and destination on Ramp mode or Cosine mode. (P:13) and (P:14)
5. Calibration

You can choose calibration method, automatically and manually.

**Single Calibration**: This option calibrates the selected one point.

**Step Calibration**: The designated points are calibrated start to end. The calibration point is added using ‘Add Point’ button.