




**AUTOMATIC COMPRESSION  
TESTING MACHINES  
EN**

**CONCRETE**

[www.testmak.com](http://www.testmak.com)

## EN AUTOMATIC COMPRESSION TESTING MACHINES


### WELDED FRAMES WITH FRAME ACCESSORIES

| CODE    | PHOTO   | CAPACITY | FRAME TYPE                 | STANDARDS  |
|---------|---|----------|----------------------------|--|
| C3200EF |  | 1000 kN  | 2 COLUMN<br>(WELDED FRAME) | <b>EN</b><br>12390-3<br>12390-4<br><b>BS</b><br>1881<br>1610<br><b>NF</b><br>P18-411 |
| C3215EF |   | 1500 kN  | 2 COLUMN<br>(WELDED FRAME) |  |
| C3222EF |   | 2000 kN  | 2 COLUMN<br>(WELDED FRAME) |  |
| C3226EF |   | 3000 kN  | 2 COLUMN<br>(WELDED FRAME) |  |

#### Frame prices include the following accessories;

- 1- Spacer Discs for ASTM Standards (1,2,3 and 4 inch)
- 2- Upper Platen;
- 3- Lower Platen;
- 4- Piston with Limit switch (for piston stroke)
- 5- Removable transparent front and rear safety doors
- 6- Security Switch for to stop the machine if the door is opened during a test.

### AUTOMATIC POWER PACK

| CODE     | PHOTO   | CAPACITY | LANGUAGE | SOFTWARE   | POWER                |
|----------|---|----------|----------|------------|----------------------|
| C3000/01 |  | 1000 kN  | ENGLISH  | FOR        | 110-120V<br>220-240V |
| C3000/02 |   | 1500 kN  | FRENCH   | COMPUTER   |                      |
| C3000/03 |   | 2000 kN  | SPANISH  | TABLET PC  |                      |
| C3000/04 |   | 3000 kN  | RUSSIAN  | SMARTPHONE |                      |

## EN AUTOMATIC COMPRESSION TESTING MACHINES

### EN SERIES AUTOMATIC COMPRESSION TESTING MACHINES

Testmak EN Standards Automatic Compression Testing Machines are designed for reliable and consistent to do the of compressive strength tests of different sizes concrete cylinder and cube moulds of samples.

Compressive strength test machines are manufactured in accordance with international TS EN 12390-3, 12390-4 and TS EN ISO 7500 standards. It also meets the requirements of all CE norms related to operator health and safety.

Concrete compression test machines are produced in Class 1 starting from 50 kN. The upper platen adjusts itself to apply homogeneous loading on the sample. Upper and lower platens are in accordance with international specifications. Surface hardness is 55HRC, flatness tolerance 0.02 mm. Traceable certificate of surface hardness is shipped with the device on request.

Experiments can be performed than on automatic control and data acquisition unit or with the free TCM200 computer software. Tablet and smartphone applications are also available optional. Can do test by connecting with smartphone of tablet the machines via wireless internet (Wifi ) and can perform print test report, from the thermal printer or via computer software with desktop printer. (reporting, graphic output, etc.)

### Testable Specimens

- 1-) Values of 100, 150, 200 mm concrete cube samples such as dimensions, test speed and fracture sensitivity rate are automatically predefined in the device.
- 2-) Values of 100\*100, 150\*300, 160\*320 mm concrete cylinder samples such as dimensions, test speed and fracture sensitivity rate are automatically predefined in the device.
- 3-) If you want to enter special values, you can easily change or add them on the touch screen.

### Safety Features

- Maximum pressure valves to avoid machine overloading
- Limit switch (for piston stroke)
- Emergency stop button
- Removable transparent front and rear safety doors
- Software controlled maximum load value
- Security Switch for to stop the machine if the door is opened during a test.



## EN AUTOMATIC COMPRESSION TESTING MACHINES

### Hydraulic Power Pack

The integrated electric motor and the high pressure hydraulic pump are energy efficient and operate at variable speeds to achieve and maintain required pressures based on loading program demands. This state-of-the-art drive system is dramatically quieter, eliminates pressure variations from over-heated oil, and extends the service life of the hydraulic components.

### TCM200 Touchscreen Controls

The TCM200 touchscreen controls specimen contact, pre-loading, rate of load, break detection, data collection, and return of the piston to the home position following specified requirements for the selected test method.



### Advantages of TCM200 touch screen control and data acquisition unit

- 1-) Values of 100, 150, 200 mm concrete cube samples such as dimensions, test speed and fracture sensitivity rate are automatically predefined in the device.
- 2-) Values of 100\*100, 150\*300, 160\*320 mm concrete cylinder samples such as dimensions, test speed and fracture sensitivity rate are automatically predefined in the device.
- 3-) If you want to enter special values, you can easily change or add them on the touch screen.

Force, stress, and rate of load are displayed simultaneously during a test, with an option to show real-time load vs time or stress vs strain graphs. Load rate and applied force are precisely regulated by feedback during sample loading. Tests can be printed immediately using the Wi-Fi capability, or the data can easily be collected and transferred to the user's PC for reporting results using a with SD card drive and the USB ports.



A menu button prints each test or transfers test data in summary form. Testing laboratory, sample ID, and client information are stored for error-free reporting and distribution. The diagnostics feature instantly displays the status of the emergency-stop button, drive system, data communication, pressure transducer, and over-travel limit switch. If any of the systems indicate a fault condition, it must be resolved before testing can proceed.



## EN AUTOMATIC COMPRESSION TESTING MACHINES

TCM200 Touch Control Unit is designed to perform automatically compression, flexure and splitting tensile strength tests of construction materials such as concrete, cement mortar, masonry units/blocks by controlling the Testmak automatic compression / flexure testing machines.

All the operations of TCM200 Touch are controlled from the front panel touch screen display.

TCM200 Touch Control Unit has easy to use menu options. It displays all menu option listings simultaneously, allowing the operator to access the required option in a seamless manner to activate the option or enter a numeric value to set the test parameters. Digital graphic display is able to draw real-time "Load vs. Time", or "Stress vs. Time" graphics. Can do calibration easily from 10 points. Manual Control is available.

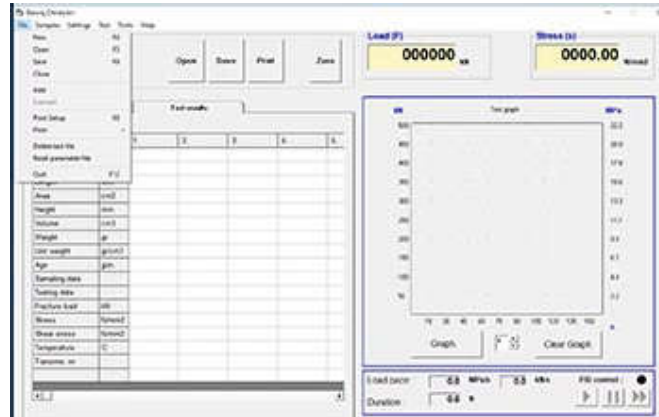
### Technical Features for TCM200 Touch Screen

- Color TFT touch display supports 16M colors and supports 800x480 pixel screen resolution
- 3 pcs universal analog input sockets (ADC)
- Each analog input with 18 bit precision (1/256000)
- 1 replacement analog input
- Total of 4 analog high-precision measuring capacities
- 2 analog output sockets (DAC)
- PULSE / DIR outputs (PULSE / DIR / ENA) to control the servo and stepper motor drives.
- Digital outputs for general purpose (can pull relays and control different electrical units)
- Digital inputs for general purpose (receives and evaluates input signals like limit contacts from the environment)
- Potentiometer input (reference signal input for calibration and remote control)
- USB communication signal output (communicates with computers)
- Connects to local networks and the Internet with Ethernet 10/100 network connection output (optional)
- Connects to portable devices via Bluetooth wireless connection (optional)
- 500 test results can be stored in internal memory
- Due to the SD (memory) card connection, a large number of test results can be stored in the device memory (40,000 test results).
- In addition, the results can be taken from the device memory and transferred to the computer as an Excel table. (Optional)
- Resistive touch screen allows easy operation of device functions by touching the screen
- Sensor modules are compatible with loadcell (load cell), pressure sensor (4-20 / 0-20 mA), potentiometric distance sensors, strain washers, thermocouples and all kinds of mV output sensors.
- Provides precise calibration with multi-point calibration (up to 10 points)
- Setting and calibration menus are password protected and prevent unauthorized use
- Allows testing with a computer, tablet, smartphone or on the touch screen panel.
- There are many test sample information screens and test methods in the device memory and tests can be performed easily
- Different menu languages can be selected via the device via language support (Turkish, English, French, Spanish)
- Speed control algorithm is closed loop PID control and all parameters can be adjusted on user side.
- The device can switch between one-touch load and deformation control modes Cihaz farklı makinelere kolayca adapte edilebilir ve en uygun kontrol sağlanır
- The graphical field that visualizes the test results on the screen has the ability to change the scale automatically and automatically adjusts the optimal scale as the values change
- Firmware updates can be made via USB input. In addition, via the computer allows remote or internet update.

## EN AUTOMATIC COMPRESSION TESTING MACHINES

### TCM200 Touch Software for Automatic Compression / Flexure Testing Machines

TCM200 Touch software provides to perform automatically compression, flexure and splitting tensile strength tests of construction materials such as concrete, cement mortar, masonry units/blocks by controlling the Testmak automatic compression / flexure testing machine



EN Automatic Compression Testers send complete with following accessories;

#### 1- Spacer Discs for EN Standards

- 205x90 mm, Dia. x H spacer disc 1 piece
- 205x50 mm, Dia. x H spacer disc 1 piece
- 205x30 mm, Dia. x H spacer disc 1 piece
- 205x10 mm, Dia. x H spacer disc 1 piece

#### 2- Upper Platen;

- Upper Platen Diameter 300 mm (with ball seating assembly) (For EN Standards) (For All Model)

#### 3- Lower Platen;

- Lower Platen Diameter 300 mm (For EN Standards) (For All Model)

#### 4- Piston;

- Piston Diameter 200 mm (For Frame Model C3210EF)
- Piston Diameter 200 mm (For Frame Model C3215EF)
- Piston Diameter 250 mm (For Frame Model C3222EF and C3224EF)
- Piston Diameter 300 mm (For Frame Model C3226EF and C3228EF)

#### 5- Automatic Hydraulic Power Pack ;

- Automatic Hydraulic Power Pack, Max 315 bar (For Frame Model C5210)
- Automatic Hydraulic Power Pack, Max 350 bar (For Frame Model C5215)
- Automatic Hydraulic Power Pack, Max 410 bar (For Frame Model C5222)
- Automatic Hydraulic Power Pack, Max 600 bar (For Frame Model C5226)

## EN AUTOMATIC COMPRESSION TESTING MACHINES

### TECHNICAL SPECIFICATIONS FOR WELDED FRAME

The sturdy, welded steel frame exceeds ACI 363 requirements for system robustness and is manufactured with total capacities of 1000kN, 1500 kN, 2000 kN, and 3000 kN.



| Product Code                 | C3200      | C3215      | C3222      | C3226      |
|------------------------------|------------|------------|------------|------------|
| Standards                    | EN         | EN         | EN         | EN         |
| Capacity                     | 1000 kN    | 1500 kN    | 2000 kN    | 3000 kN    |
| Load Capacity Range          | 10–1000 kN | 20–1500 kN | 50–2000 kN | 50–2000 kN |
| Frame Type                   | C3210EF    | C3215EF    | C3222EF    | C3226EF    |
| Upper Platens Dim.           | Ø300 mm    | Ø300 mm    | Ø300 mm    | Ø300 mm    |
| Lower Platens Dim.           | Ø300 mm    | Ø300 mm    | Ø300 mm    | Ø300 mm    |
| Max. Vertical Clearance      | 340 mm     | 340 mm     | 340 mm     | 340 mm     |
| Max. Horizontal Clearance    | 320 mm     | 320 mm     | 360 mm     | 425 mm     |
| Ram Diameter                 | 200 mm     | 200 mm     | 250 mm     | 300 mm     |
| Piston Stroke                | 50 mm      | 50 mm      | 50 mm      | 50 mm      |
| Platen Hardness              | 55HRC      | 55HRC      | 55HRC      | 55HRC      |
| Fluid Reservoir Capacity     | 12 L       | 12 L       | 12 L       | 12 L       |
| Power                        | 220-240V   | 220-240V   | 220-240V   | 220-240V   |
| <b>DIMENSIONS AND WEIGHT</b> |            |            |            |            |
| Overall Width                | 700 mm     | 750 mm     | 750 mm     | 925 mm     |
| Overall Depth                | 480 mm     | 500 mm     | 540 mm     | 550 mm     |
| Overall Height               | 1250 mm    | 1300 mm    | 1400 mm    | 1500 mm    |
| Overall Weight               | 650 kg     | 700 kg     | 800 kg     | 1070 kg    |



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**MATERIAL TEST EQUIPMENTS**

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