

## AUTOMATIC COMPRESSION TESTING MACHINE



## AUTOMATIC COMPRESSION TESTING MACHINE CAPACITY RANGE OF 600 TO 1500 KN

## AUTOMATIC COMPRESSION TESTING MACHINE

### PRODUCT MODEL

TMC-5220 | 600 kN Automatic Compression Testing Machine, Four Column Frame, En Standards

TMC-5221 | 1500 kN Automatic Compression Testing Machine, Four Column Frame, ASTM Standards

### STANDARDS

EN 12390-3, 12390-4 | BS 1881 | ASTM C39



**TMC-5220**



**TMC-5221**

### DESCRIPTION

Low Capacity Automatic Compression Testing Machines have been manufactured for consistent tests of concrete cube and cylinder specimens. These machines are produced to capacity range of 600 kN and 1500 kN. Suitable for CE security norms and EN 12390-3, 12390- 4, BS 1881, ASTM C39, AASHTO 22 to standards. These compression test machines are controlled by the “PCM 304” software with computer. Tests can be performed by either on PCM 304 Unit or on a computer with using free software. Can be done tests on computer with using PCM 304 software and such as reporting, graphical output.

The Data Acquisition Control provides real-time graphical indication. Automatically determines the load rate in accordance with the international standards upon sample type. With the STOP and START buttons, the test will automatically stop or start.

## AUTOMATIC COMPRESSION TESTING MACHINE

### Can be done the following tests with this machines;

- 1- Compression strength tests.
- 2- Flexural and splitting tests by using proper accessories.
- 3- Mortar (Cement) compression tests by using proper accessories.
- 4- Core testing.

Testmak brand compression and strength machines are design to test the compression strength of concrete cube and cylinder specimens of different sizes. The rigid design provides stability and strength for a better using experience. Automatic compression machines with an LCD control unit that displays the data graphically of each test with the ability to save and recall the results of the tested specimens.

Automatic mode or manual mode in which the user gets the ability to adjust the load rate and period manually are available. Suitable for CE security norms and compression machines are supplied in Class 1 starting from 50 kN. The upper seating adjusts itself to apply homogeneous loading on the sample. Upper and lower platens in accordance with international specifications. Surface hardness 55HRC, flatness tolerance 0.02 mm. Traceable certificate of surface hardness available on request.

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### Automatic low capacity compression machines supplied complete with following;

#### FOR TMC-5220

- Heavy Duty Welded Frame
- Ø 165x15 mm Distance piece 1 pcs.
- Ø 165x30 mm Distance piece 1 pcs.
- Ø 165x50 mm Distance piece 1 pcs
- Ø 165x90 mm Distance piece 1 pcs,
- Upper&Lower Platen Ø165 mm (with ball seating assembly)
- Piston Ø160 mm
- Automatic Hydraulic Power Pack

#### FOR TMC-5221

- Heavy Duty Welded Frame
- Ø 165x15 mm Distance piece 1 pcs.
- Ø 165x30 mm Distance piece 1 pcs.
- Ø 165x50 mm Distance piece 1 pcs
- Ø 165x90 mm Distance piece 1 pcs,
- Upper&Lower Platen Ø216 mm (with ball seating assembly)
- Piston Ø250 mm
- Automatic Hydraulic Power Pack

## AUTOMATIC COMPRESSION TESTING MACHINE

### Testable Specimens

- Concrete Cubes: 100 mm, 150 mm, 200 mm concrete cube sample or any other custom cube and prism size can be tested with this machine.
- Concrete Cylinder: 100x200 mm, 150x300 mm, 160x320 mm concrete cylinder samples or any other custom diameters cylinder can be tested with this machine.

### TECHNICAL SPECIFICATIONS

Product Code	TMC-5220	TMC-5221
Capacity	600 kN	1500 kN
Frame Type	Welded Frame	Welded Frame
Sample	4" , 6" dia. cylinders 100 mm cubes	6" dia. cylinders 100, 150 mm cubes
Upper Platens Dim.	Ø 165 mm	Ø 216 mm
Lower Platens Dim.	Ø 165 mm	Ø 216 mm
Max. Vertical Clearance	340 mm	370 mm
Max. Horizontal Clearance	230 mm	320 mm
Piston Diameter	160 mm	250 mm
Max. Piston Movement	50 mm	50 mm
Max. Working Pressure	315 Bar	355 Bar
Oil Capacity	18 Liters	18 Liters
Power	750 W	750 W
Dimensions Frame	550x500x1300 mm	600x540x1400 mm
Dimensions Power Pack	400x500x980 mm	400x500x980 mm
Weight Frame	430 kg	620 kg
Weight Power Pack	90 kg	90 kg

## AUTOMATIC COMPRESSION TESTING MACHINE

### UPPER & LOWER PLATENS

- TMC-3211-01 | Upper Platen (with ball seating assembly) Ø 165 mm, Lower Platen Ø 165 mm  
 TMC-3212-01 | Upper Platen (with ball seating assembly) Ø 216 mm, Lower Platen Ø 216 mm  
 TMC-3213-01 | Upper Platen (with ball seating assembly) Ø 300 mm, Lower Platen Ø 300 mm  
 TMC-3214-01 | Upper Platen (with ball seating assembly) 310x410x90 mm, Lower Platen 310x410x90 mm  
 TMC-3215-01 | Upper Platen (with ball seating assembly) 310x500x38 mm, Lower Platen 310x500x38 mm

The platens enable the testing of a wide variety of cylinder, cube blocks or similar samples. Produced from high quality steel, which is then hardened. Surface hardness 55HRC, flatness tolerance 0.02 mm. Traceable certificate of surface hardness available on request. Have centering rings on the lower platens for proper centering of 100 mm and 150 mm cube, 100 mm and 150 mm cylinder samples.



TMC-3211-01



TMC-3212-01



TMC-3213-01



TMC-3214-01

Product Code	TMC-3211-01	TMC-3212-01	TMC-3213-01	TMC-3214-01
Description	Upper Platen (with ball seating assembly) Ø 165 mm, Lower Platen Ø 165 mm	Upper Platen (with ball seating assembly) Ø 216 mm, Lower Platen Ø 216 mm	Upper Platen (with ball seating assembly) Ø 300 mm, Lower Platen Ø 300 mm	Upper Platen (with ball seating assembly) 310x500x38 mm, Lower Platen 310x500x38 mm
Sample	4" , 6" dia. cylinders 100 mm cubes	6" dia. cylinders 100, 150 mm cubes	Cylinders: 100x200 mm, 150x300 mm, 160x320 mm Cubes 100,150,200 mm	Blocks up to 310x500 mm
Used with Frames	TMC-3200, TMC-3201, TMC-3204, TMC-3206, TMC-3208, TMC-3209	TMC-3200, TMC-3201, TMC-3203, TMC-3204, , TMC-3205, TMC-3206, , TMC-3207, TMC-3208, TMC-3209	TMC-3203, TMC-3205, TMC-3207, TMC-3209	TMC-3202, TMC-3203, TMC-3204, TMC-3205, TMC-3206, TMC-3207, TMC-3208, TMC-3209
Standards	ASTM C39	ASTM C39 and EN 12390-4	EN 12390-4	EN 772-1
Hardness	≥ 55 HRC	≥ 55 HRC	≥ 53 HRC	≥ 600 HV
Dimensions	170x170x145 mm	220x220x145 mm	310x310x175 mm	320x510x175 mm
Weight	21 kg	38 kg	78 kg	135 kg



## AUTOMATIC COMPRESSION TESTING MACHINE

### DISTANCE PIECES

- TMC-3216-01 | Distance Pieces, Ø 165x15 mm
- TMC-3216-02 | Distance Pieces, Ø 165x30 mm
- TMC-3216-03 | Distance Pieces, Ø 165x50 mm
- TMC-3216-04 | Distance Pieces, Ø 165x90 mm
- TMC-3217-01 | Distance Pieces, Ø 205x30 mm
- TMC-3217-02 | Distance Pieces, Ø 205x50 mm
- TMC-3217-03 | Distance Pieces, Ø 205x90 mm



Distance pieces are used to reduce the amount of vertical clearance between the upper platen and the lower platen. 600 to 3000 kN machines are supplied with 205 mm and 165 mm dia distance piece.

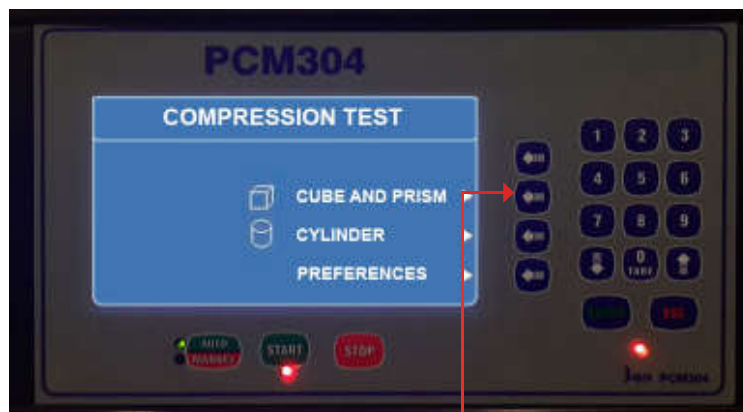
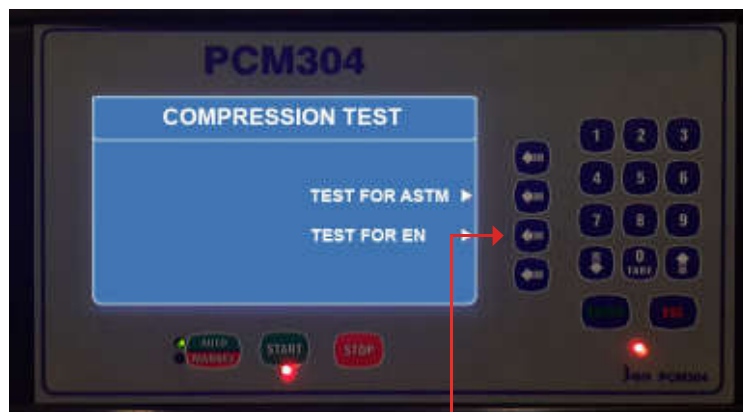
Model	Dimensions	Weight (approx.)
TMC-3216-01	165x165x15 mm	2,5 kg
TMC-3216-02	165x165x30mm	5 kg
TMC-3216-03	165x165x50 mm	8 kg
TMC-3216-04	165x165x90 mm	14 kg
TMC-3217-01	205x290x30 mm	8 kg
TMC-3217-02	205x290x50 mm	13 kg
TMC-3217-03	205x290x90 mm	22 kg

## AUTOMATIC COMPRESSION TESTING MACHINE

### LCD DATA ACQUISITION CONTROL SYSTEM

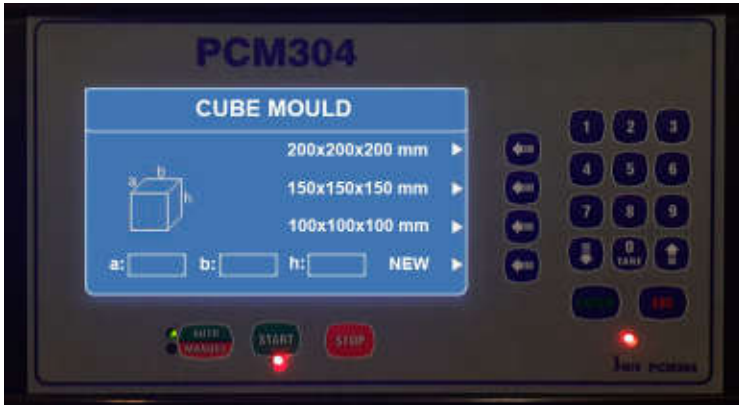
LCD Data Acquisition Control System has different units are available (kN / kgf / lbf). Can do Automatic Load Rate upon Sample Type. Total load and also per area are given. and has real time graph indication. Stops Automatically, when Test is completed. Test results can be send printer to with software or from the thermal printer. Can do calibration easily from 5 points. Manual Control is available. Computer and printer are not included in the price.

### TEST IN ACCORDANCE TO EN 12390-4 STANDARDS



## AUTOMATIC COMPRESSION TESTING MACHINE

Choose the sample size or specify the custom dimensions of your sample. (Size should be in millimeters).



Choose the mode from the main screen by selecting either AUTOMATIC or MANUAL. Press "Start" to begin the test.

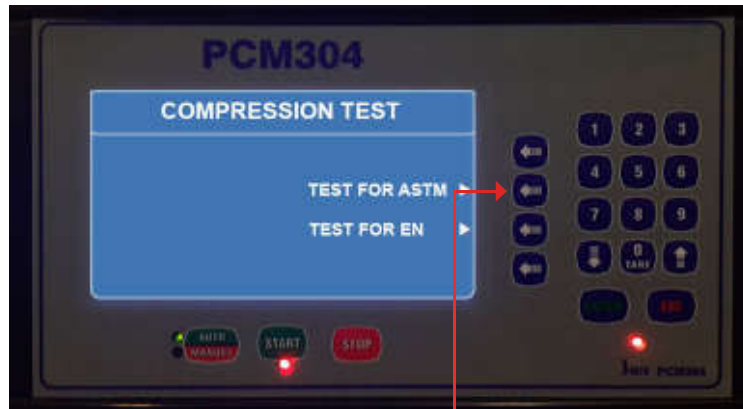


Press "Print" to print the test result graphic.

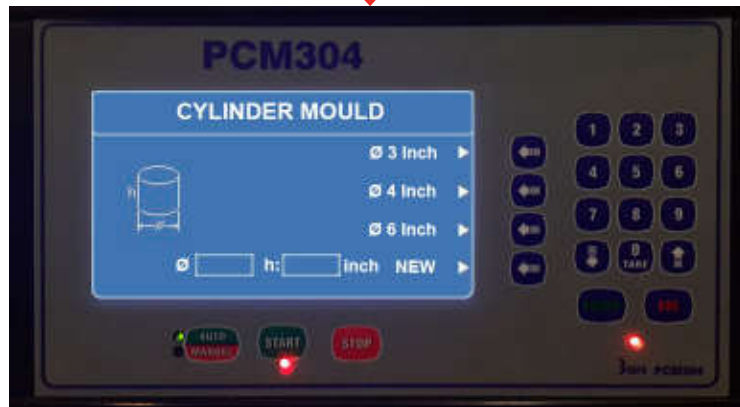


## AUTOMATIC COMPRESSION TESTING MACHINE

### TEST IN ACCORDANCE TO ASTM C39 STANDARDS



Choose the sample size or specify the custom dimensions of your sample. (Size should be in millimeters).



Choose the mode from the main screen by selecting either AUTOMATIC or MANUAL. Press "Start" to begin the test.

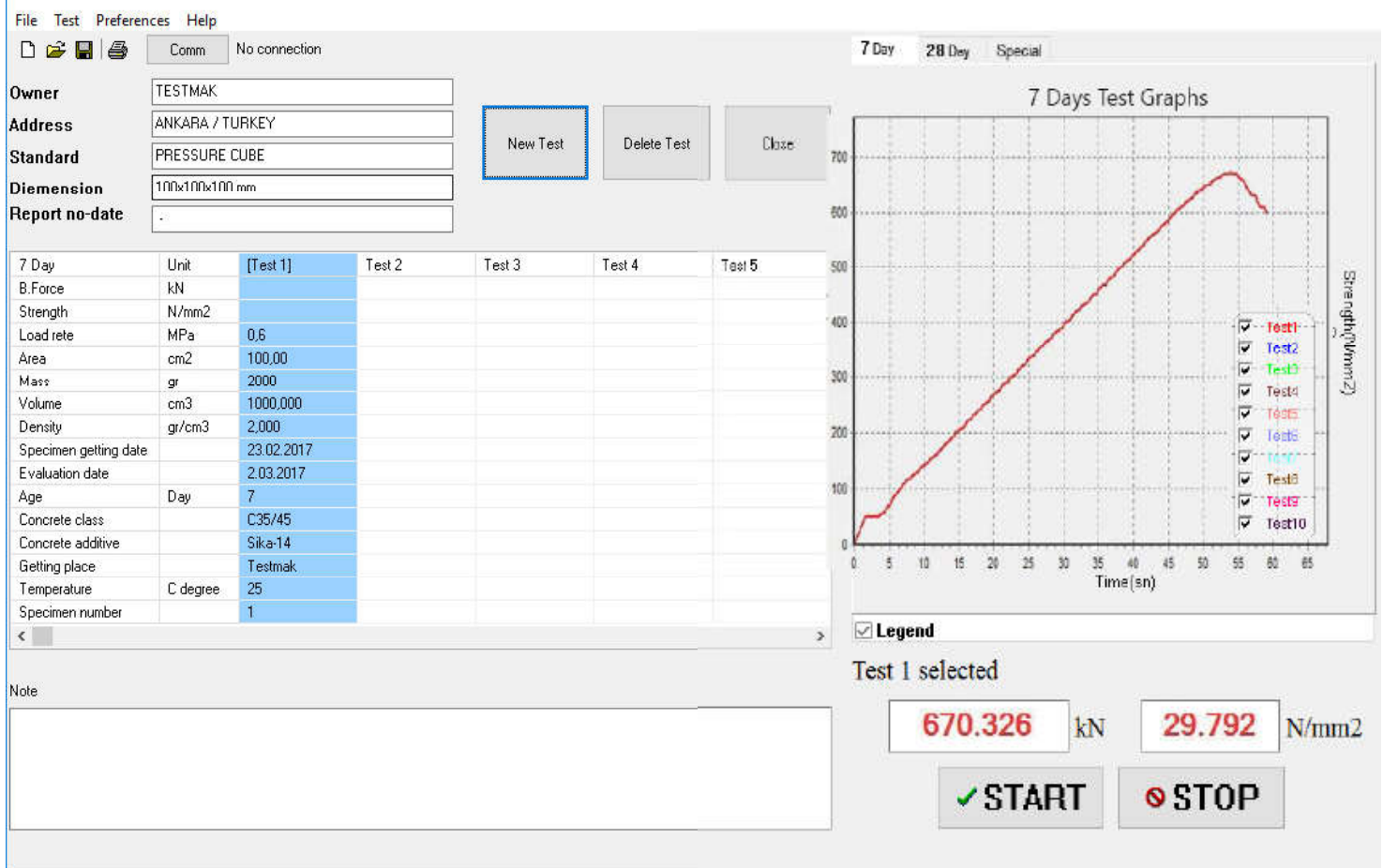


Press "Print" to print the test result graphic.

# AUTOMATIC COMPRESSION TESTING MACHINE

## SOFTWARE

The tests and calibration can be done and monitored with a computer by connecting it to the machine. LCD Control unit can connecting with RS232 or USB port to the machine. Using the state-of-the-art software provided by TESTMAK with the machine will help performing and managing the tests in a very easy and fast way. By performing the tests via computer, the results can be saved and recalled when required. Reports can be generated automatically by the software and sent to printer.



The screenshot displays the TESTMAK software interface. On the left, there is a menu bar (File, Test, Preferences, Help) and a toolbar with icons for file operations and a 'Comm' button. Below this, there are input fields for 'Owner' (TESTMAK), 'Address' (ANKARA / TURKEY), 'Standard' (PRESSURE CUBE), 'Dimension' (100x100x100 mm), and 'Report no-date'. A 'New Test' button is highlighted with a blue border.

In the center, there is a table with columns for '7 Day', 'Unit', and 'Test 1' through 'Test 5'. The '7 Day' column contains various test parameters:

7 Day	Unit	Test 1	Test 2	Test 3	Test 4	Test 5
B.Force	kN					
Strength	N/mm2					
Load rete	MPa	0.6				
Area	cm2	100.00				
Mass	gr	2000				
Volume	cm3	1000.000				
Density	gr/cm3	2.000				
Specimen getting date		23.02.2017				
Evaluation date		2.03.2017				
Age	Day	7				
Concrete class		C35/45				
Concrete additive		Sika-14				
Getting place		Testmak				
Temperature	C degree	25				
Specimen number		1				

On the right side, there is a '7 Days Test Graphs' window. It shows a line graph of 'Strength(N/mm2)' vs 'Time(sn)'. The graph displays a single red curve for 'Test1' that rises to a peak of approximately 670 N/mm2 at 55 seconds before slightly declining. A legend below the graph shows 'Test 1 selected' with a checkmark. Below the legend, the results for Test 1 are displayed: **670.326 kN** and **29.792 N/mm2**. At the bottom right, there are two buttons: a green 'START' button and a red 'STOP' button.