



**HS Four Column
Automatic Compression
Testing Machines**

CONCRETE

HS Four Column Automatic Compression Testing Machines

PRODUCT MODEL

- TMC-3224 | 2000 kN Automatic Four Column Compression Testing Machine EN, 220-240 V 50-60 Hz
TMC-3228 | 3000 kN Automatic Four Column Compression Testing Machine EN, 220-240 V 50-60 Hz
TMC-5224 | 2000 kN Automatic Four Column Compression Testing Machine ASTM, 220-240 V 50-60 Hz
TMC-5228 | 3000 kN Automatic Four Column Compression Testing Machine ASTM, 220-240 V 50-60 Hz

STANDARDS

ASTM C39 | EN 12390-3, 12390-4 | BS 1881 | GOCT 10180-2012



DESCRIPTION

HS Four Column Automatic Compression Testing Machines are classification of concrete samples, performed according to characteristic and compressive strength specifications of concrete samples. These characteristic and compressive strength specifications are determined with to the done tests results with concrete compression machine.

First, Compression Testing Machines should be carried calibration according to the relevant standards in order to make reliable measurements. Compression machine should be within calibration values class 1 for enables a more reliable test results. Can find follow the Testmak concrete compression machine models and technical specifications for the sample specification.

HS Four Column Automatic Compression Testing Machines

Testmak HS Four Column Automatic Compression Testing Machines have been manufactured for consistent testing of concrete cube and cylinder specimens. These machines are produced to between capacity range of 2000 to 3000 kN . Suitable for CE security norms and and EN 12390-3, 12390-4, BS 1881 to standards. The HS Four Column Automatic Compression Testing Machines can controlled by the “TCM304” digital readout unit or with computer software. Test results, reporting and graphical print can be done with TCM304 software from computer. Testmak compression machine heavy duty welded and four column frame are produced two model as.

The suitable vertical clearance for specimen can be adjusted with distance pieces. Testmak all model compression machines calibration values are within class 1 starting from 50 kN. Surface hardness 55HRC, flatness tolerance 0.02 mm.

HS Four Column Automatic Compression Testing Machines supplied complete with following accessories;

1- Spacer Discs;

For ASTM Standards;

- Diameter 165 mm x Height 90 mm spacer disc 1 piece
- Diameter 165 mm x Height 50 mm spacer disc 1 piece
- Diameter 165 mm x Height 30 mm spacer disc 2 piece

For EN Standards;

- Diameter 205 mm x Height 90 mm spacer disc 1 piece
- Diameter 205 mm x Height 50 mm spacer disc 1 piece
- Diameter 205 mm x Height 30 mm spacer disc 1 piece

2- Upper Platen;

- Upper Platen Diameter 165 mm (with ball seating assembly) (For ASTM Standards)
- Upper Platen Diameter 300 mm (with ball seating assembly) (For EN Standards)

3- Lower Platen;

- Lower Platen Diameter 165 mm (For ASTM Standards)
- Lower Platen Diameter 300 mm (For EN Standards)

4- Piston;

- Piston Diameter 250 mm (For 2000 kN Capacity Models)
- Piston Diameter 300 mm (For 3000 kN Capacity Models)

5- Automatic Hydraulic Power Pack ;

- Automatic Hydraulic Power Pack, 410 bar (For All Models)

HS Four Column Automatic Compression Testing Machines

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.

Safety Features

- Maximum pressure valves to avoid machine overloading
- Piston travel limit switch
- Emergency stop button
- Front and rear transparent durable plexiglas guards
- Software controlled maximum load value

TECHNICAL SPECIFICATIONS

Product Code	TMC-3224	TMC-3228	TMC-5224	TMC-5228
Standards	EN	EN	ASTM	ASTM
Capacity	2000 kN	3000 kN	2000 kN	3000 kN
Frame Type	Four Column Frame	Four Column Frame	Four Column Frame	Four Column Frame
Sample	Cylinders: 100x200 mm, 150x300 mm, 160x320 mm Cubes 100,150,200 mm	Cylinders: 100x200 mm, 150x300 mm, 160x320 mm Cubes 100,150,200 mm	4" , 6" dia. cylinders 100,150,200 mm cubes	4" , 6" dia. cylinders 100,150,200 mm cubes
Upper Platens Dim.	Ø 300 mm	Ø 300 mm	Ø 165 mm	Ø 165 mm
Lower Platens Dim.	Ø 300 mm	Ø 300 mm	Ø 165mm	Ø 165mm
Max. Vertical Clearance	340 mm	340 mm	370 mm	370 mm
Max. Horizontal Clearance	360 mm	425 mm	360 mm	425 mm
Piston Diameter	250 mm	300 mm	250 mm	300 mm
Max. Piston Movement	50 mm	50 mm	50 mm	50 mm
Max. Working Pressure	410 Bar	410 Bar	410 Bar	410 Bar
Oil Capacity	18 Liters	18 Liters	18 Liters	18 Liters
Power	1100 W	1100 W	1100 W	1100 W
Dimensions	850x550x1400 mm	980x680x1500 mm	850x550x1400 mm	980x680x1500 mm
Weight Power Pack	870 kg	1100 kg	850 kg	1050 kg

HS Four Column Automatic Compression Testing Machines

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

HS Four Column Automatic Compression Testing Machines

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

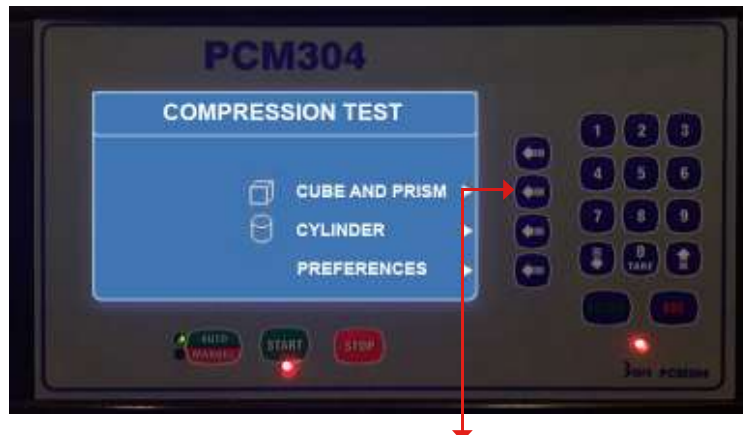
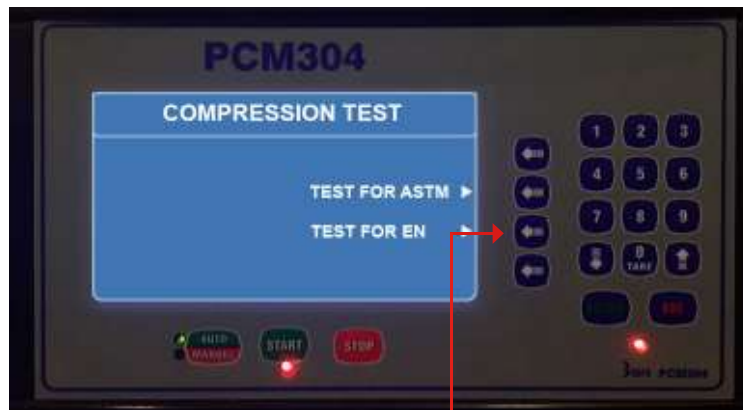
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LCD DATA ACQUISITION CONTROL SYSTEM

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.

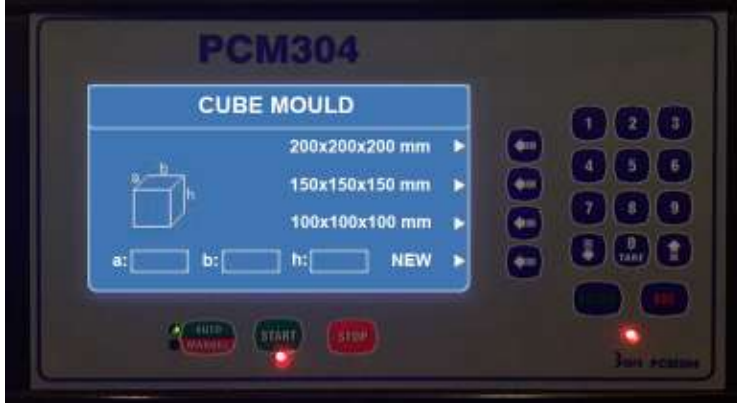
LCD Data Acquisition Control System has different units are available (kN / kgf / lbf). Can do Automatic Load Rate upon Sample Type. Total load and also per area are given. and has real time graph indication. Stops Automatically, when Test is completed. Test results can be send printer to with software 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

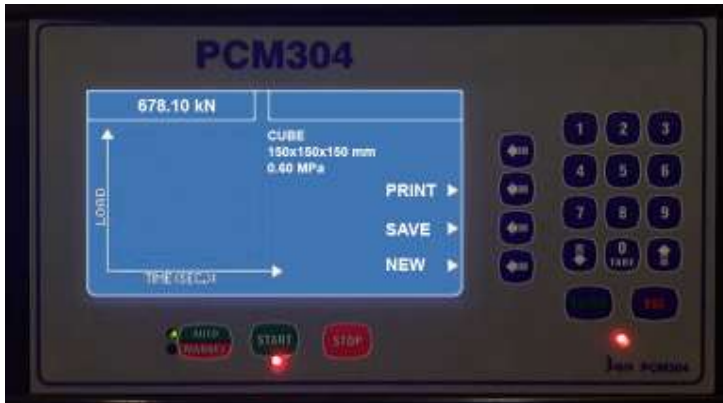


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Choose the sample size or specify the custom dimensions of your sample. (Size should be in millimeters).



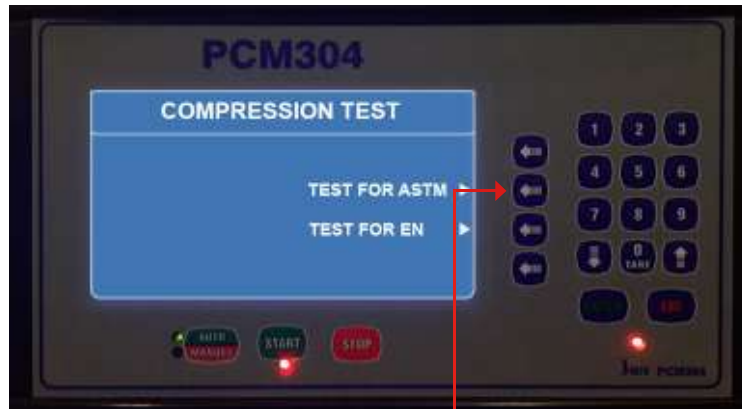
Choose the mode from the main screen by selecting either AUTOMATIC or MANUAL.
Press "Start" to begin the test.



Press "Print" to print the test result graphic.

HS Four Column Automatic Compression Testing Machines

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.

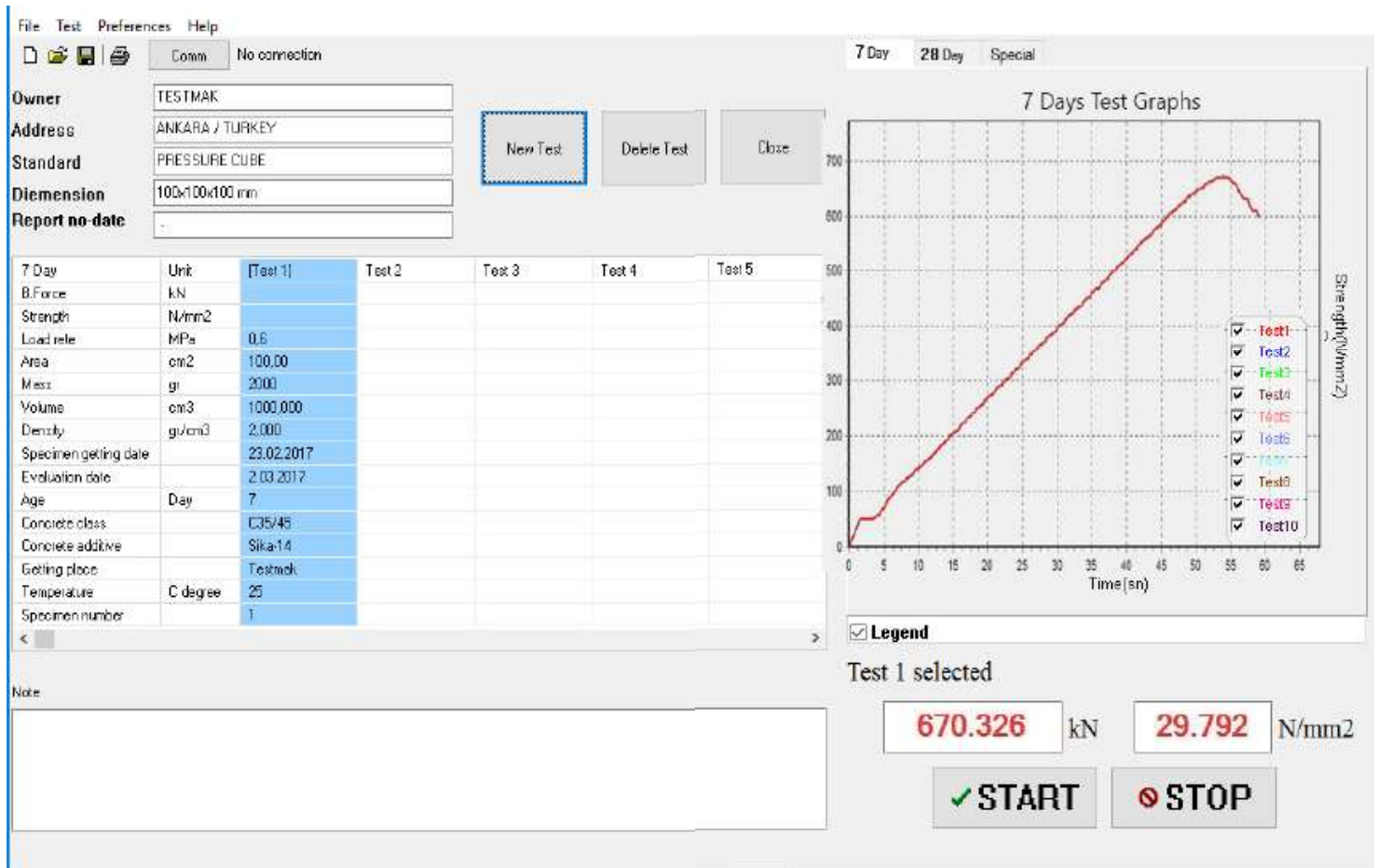


Press "Print" to print the test result graphic.

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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 form for test parameters and a table for test results. On the right, there is a graph titled "7 Days Test Graphs" showing Strength (N/mm²) vs Time (sn). Below the graph, there is a legend and control buttons for "START" and "STOP".

Test Parameters:

- Owner: TESTMAK
- Address: ANKARA / TURKEY
- Standard: PRESSURE CUBE
- Dimension: 100x100x100 mm
- Report no-date: -

Test Results Table:

7 Day	Unit	Test 1	Test 2	Test 3	Test 4	Test 5
B.Force	kN					
Strength	N/mm ²					
Load rate	MPa	0.6				
Area	cm ²	100.00				
Mass	gr	2000				
Volume	cm ³	1000.000				
Density	gr/cm ³	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				

7 Days Test Graphs:

The graph shows Strength (N/mm²) on the Y-axis (0 to 700) and Time (sn) on the X-axis (0 to 65). A red curve represents the test results, showing a peak strength of approximately 670 N/mm² at around 55 seconds.

Legend: Test 1 selected

Results: 670.326 kN, 29.792 N/mm²

Buttons: START, STOP



TM TEST MAK
MATERIAL TEST EQUIPMENTS

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