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#### **COMPRESSION MACHINE FRAMES**

## Product Code

TMC-3190	600 kN Capacity Frame
TMC-3191	1500 kN Capacity Frame
TMC-3192	2000 kN Capacity Frame, EN
TMC-3193	2000 kN Capacity Frame, ASTM
TMC-3194	3000 kN Capacity Frame, EN
TMC-3195	3000 kN Capacity Frame, ASTM
TMC-3196	2000 kN Capacity Four Column Frame, EN
TMC-3197	3000 kN Capacity Four Column Frame, EN

#### Description

The load frame provides the stability needed for accurate and repeatable test results over the years of operation.

The load frame assembly consists of the following:

- Load Frame
- Upper Platen with Ball Seating Assembly
- Lower Platen
- Distance Pieces
- · Loading Cylinder Assembly & Limit Switch for safety
- Front and Rear Protective Doors for safety



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







TMC-3195



TMC-3192



TMC-3194



TMC-3196

#### LOW CAPACITY FRAMES

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Product Code	TMC-3190	TMC-3191
Capacity	600 kN	1500 kN
Frame Type	Welded Steel	Welded Steel
Maximum Vertical Clearance ( E )	340 mm	370 mm
Horizontal Clearance (B)	230 mm	320 mm
Upper Platens With Ball Seating Assembly Dimensions (C)	Ø 165 mm	Ø216mm
Lower Platens Dimensions (D)	Ø 165 mm	Ø216mm
Piston Diameter	160 mm	250 mm
Piston Stroke	50 mm	50 mm
Dimensions (wxlxh)	290x500x950 mm	390x500x980 m
Weight	340 kg	550 kg

# TMC-3190 Supplied complete with;

• 1 pcs 90x165 mm dia. distance pieces

• 1 pcs 50x165 mm dia. distance pieces

• 1 pcs 30x165 mm dia. distance pieces

#### HIGH CAPACITY ASTM FRAMES

Product Code	TMC-3193	TMC-3195
Capacity	2000 kN	3000 kN
Frame Type	Welded Steel	Welded Stee
Maximum Vertical Clearance ( E )	370 mm	370 mm
Horizontal Clearance (B)	360 mm	425 mm
Upper Platens With Ball Seating Assembly Dimensions (C)	Ø 165 mm	Ø 165 mm
Lower Platens Dimensions (D)	Ø 165 mm	Ø 165 mm
Piston Diameter	250 mm	300 mm
Piston Stroke	50 mm	50 mm
Dimensions (wxlxh)	440x500x980 mm	500x550x1100
Weight	700 kg	950 kg

# TMC-3193 Supplied complete with;

• 1 pcs 90x165 mm dia. distance pieces

• 1 pcs 50x165 mm dia. distance pieces

• 2 pcs 30x165 mm dia. distance pieces

# **CONCRETE TEST EQUIPMENTS**

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## TMC-3191 Supplied complete with;

- 1 pcs 90x165 mm dia. distance pieces
- 1 pcs 50x165 mm dia. distance pieces
- 2 pcs 30x165 mm dia. distance pieces



## TMC-3195 Supplied complete with;

- 1 pcs 90x165 mm dia. distance pieces
- 1 pcs 50x165 mm dia. distance pieces
- 2 pcs 30x165 mm dia. distance pieces

#### HIGH CAPACITY EN FRAMES

Product Code	TMC-3192	TMC-3194
Capacity	2000 kN	3000 kN
Frame Type	Welded Steel	Welded Steel
Maximum Vertical Clearance ( E )	340 mm	340 mm
Horizontal Clearance (B)	360 mm	425 mm
Upper Platens With Ball Seating Assembly Dimensions (C)	Ø 300 mm	Ø 300 mm
Lower Platens Dimensions (D)	Ø 300 mm	Ø 300 mm
Piston Diameter	250 mm	300 mm
Piston Stroke	50 mm	50 mm
Dimensions (wxlxh)	440x500x980 mm	500x550x1100 mm
Weight	720 kg	970 kg



TMC-3194 Supplied complete with;

• 1 pcs 90x205 mm dia. distance pieces

• 1 pcs 50x205 mm dia. distance pieces

• 1 pcs 30x205 mm dia. distance pieces

# TESTOTIC COMPESSION TESTING

#### **UPPER AND LOWER PLATENS**

#### Product Code

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) 310x500x38 mm, Lower Platen 310x500x38 mm TMC-3215-01 | Upper Platen (with ball seating assembly) 310x410x90 mm, Lower Platen 310x410x90 mm

#### Description

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

Product Code	TMC-3211-01	TMC-3212-01	TMC-3213-01	TMC-3214-01
Description	Upper Platen (with ball se- ating assembly) Ø 165 mm, Lower Platen Ø 165 mm	Upper Platen (with ball se- ating assembly) Ø 216 mm, Lower Platen Ø 216 mm	Upper Platen (with ball se- ating assembly) Ø 300 mm, Lower Platen Ø 300 mm	Upper Platen (with ball sea- ting assembly) 310x500x38 mm, Lower Platen 310x500x38 mm
Sample	4" , 6" dia. cylinders 100 mm cubes	6" dia. cylinders 100, 150 mm cubes	100,150,160 mm cylinders - 100, 150, 200 mm cubes	Blocks up to 310x500 mm
Used with Frames	TMC-3190, TMC-3191, TMC-3192, TMC-3193, TMC-3194, TMC-3195, TMC-3196, TMC-3197	TMC-3191, TMC-3192, TMC-3193, TMC-3194, TMC-3195, TMC-3196, TMC-3197	TMC-3192, TMC-3194, TMC-3196, TMC-3197	TMC-3191, TMC-3192, TMC-3193, TMC-3194, TMC-3195, TMC-3196, TMC-3197
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

# TMC-3192 Supplied complete with;

- 1 pcs 90x205 mm dia. distance pieces
- 1 pcs 50x205 mm dia. distance pieces
- 1 pcs 30x205 mm dia. distance pieces

#### HIGH CAPACITY EN FOUR COLUMN FRAMES

Product Code	TMC-3196	TMC-3197
Capacity	2000 kN	3000 kN
Frame Type	Four Column	Four Column
Maximum Vertical Clearance ( E )	340 mm	340 mm
Horizontal Clearance (B)	385 mm	445 mm
Upper Platens With Ball Seating Assembly Dimensions (C)	Ø 300 mm	Ø 300 mm
Lower Platens Dimensions (D)	Ø 300 mm	Ø 300 mm
Piston Diameter	250 mm	300 mm
Piston Stroke	50 mm	50 mm
Dimensions (wxlxh)	610x640x1150 mm	710x650x1200 mm
Weight	900 kg	1350 kg



#### TMC-3196 Supplied complete with;

- 1 pcs 90x205 mm dia. distance pieces
- 1 pcs 50x205 mm dia. distance pieces
- 1 pcs 30x205 mm dia. distance pieces

#### TMC-3197 Supplied complete with;

- 1 pcs 90x205 mm dia. distance pieces
- 1 pcs 50x205 mm dia. distance pieces
- 1 pcs 30x205 mm dia. distance pieces

# **CONCRETE TEST EQUIPMENTS**

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TMC-3213-01



TMC-3214-01

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#### **DISTANCE PIECES**

#### Product Code

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

#### Standards

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



#### Description

Distance pieces are used to reduce the amount of vertical clearance between the upper platen and the lower platen. 2000 kN , 3000 kN machines are supplied with 205 mm and 165 mm dia distance piece.

P.Code	Dimensions	Weight
TCM-3217-1	Ø 205x h 30 mm	9 kg
TCM-3217-2	Ø 205x h 50 mm	14 kg
TCM-3217-3	Ø 205x h 90 mm	21 kg

P.Code	Dimensions	Weight
TCM-3216-1	Ø 165x h 15 mm	2,,5 kg
TCM-3216-2	Ø 165x h 30 mm	5 kg
TCM-3216-3	Ø 165x h 50 mm	8 kg
TCM-3216-4	Ø 165x h 90 mm	14 kg

# **READOUT UNIT**



# Description

#### Hardware

TCM304 LCD Graphic Display are controlled from the front panel consisting of a 240x120 pixel High resolution 65.000 points effective resolution LCD display and function keys. One analog channel for load cell and one analog channel for displacement transducer exists.

#### Firmware

TCM 304 LCD Graphic Display are controlled with function keys on the front panel. Two analog channel for load cell and two digital channels for displacement transducer exists. Simultaneous display of load-specific load, actual load rate and load/time graph; RS232 connection to PC; Multi coefficient calibration.

#### Data Acquisition & PC Software

Compression Machines Test Software is developed for both EN 12390-3, 12390-4, BS 1881 and ASTM C39 Compression Tests. This Software includes control of machine, acquisition of load and displacement data, saving them and reports. The Compression Test Software accepts specimen diameter and height as an input parameter. It automatically calculates correction factor coming from the standarts respect to specimen size. Graphical outputs and reports can be saved as a MS Excel worksheet

#### MAIN FEATURES

- · Automatically calculates flow and stability values
- 240\*120 pixel blue-white graphic LCD display.
- High resolution 65.000 points.
- · Backlight function.
- · Capability of contrast calibration by light.
- · 21 key touch membrane keyboard.
- Two analogical and two digital channels, use for load cell or pressure transducer etc.
- · Standalone full automatic testing capacity.
- · Can make manual tests if requested.
- · A sample type and dimension can be entered respect to the standards,
- · Load-Time, Tensile-Time, Test Results and Sample reports observable and printable.
- One RS232 serial port for connecting either PC or printer for data trans mission
- · Comes with Connection cable and software.
- · Large permanent memory up to 256 test results.
- · Language select, English Turkish.

# LS AUTOMATIC COMPRESSION TESTING MACHINES

Product Code
TMC-5220   600 kN Automatic Compression Testing Machine, 220-240 V 50-60 l
TMC-5220/110   600 kN Automatic Compression Testing Machine, 110 V 60 Hz
TMC-5221   1500 kN LS Automatic Compression Testing Machine, 220-240 V 50
TMC-5221/110   1500 kN LS Automatic Compression Testing Machine - 110 V 60 Hz

#### Standards

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





The Testmak LS series Low Strength Automatic Compression Testing Machines have been manufactured for consistent testing 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 "TCM 304" software with computer. Tests can be performed by either on TCM 304 Unit or on a computer with using free software. Can be done tests on computer with using TCM 304 software and such as reporting, graphical output. Low Capacity Automatic Compression Testing Machines are supplied in Class 1 starting from 50 kN. Surface hardness 55HRC, flatness tolerance 0.02 mm. Traceable certificate of surface hardness available on request. 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.

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.

# **CONCRETE TEST EQUIPMENTS**

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V 50-60 Hz Hz -240 V 50-60 Hz



## LS AUTOMATIC COMPRESSION TESTING MACHINES

LS Automatic Compression Testing Machines supplied complete with following accessories 1- Spacer Discs;

- 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
- 2- Upper Platen;

Upper Platen Diameter 165 mm (with ball seating assembly)

- 3- Lower Platen;• Lower Platen Diameter 165 mm
- 4- Piston;
- Piston Diameter 160 mm (For 600 kN Capacity Models)
- Piston Diameter 200 mm (For 1500 kN Capacity Models)
- 5- Automatic Hydraulic Power Pack ;

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

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. 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.

Product Code	TMC-5220	TMC-5221
Capacity	600 kN	1500 kN
Frame Type	Heavy Duty Welded Frame( TMC-3190)	Heavy Duty Welded Frame (TMC-3191)
Sample	4", 6" dia. cylinders 100 mm cubes	6" dia. cylinders 100, 150 mm cubes
Upper Platens Dim.	Ø 165 mm	Ø 165 mm
Lower Platens Dim.	Ø 165 mm	Ø 165 mm
Max. Vertical Clearance	340 mm	370 mm
Max. Horizontal Clearance	230 mm	320 mm
Piston Diameter	160 mm	200 mm
Max. Piston Movement	50 mm	50 mm
Max. Working Pressure	315 Bar	355 Bar
Oil Capacity	18 Liters	18 Liters
Power	1100 W	1100 W
Dimensions	650x500x1250 mm	750x540x1300 mm
Weight	510 kg	700 kg



#### LCD DATA ACQUISITION CONTROL SYSTEM

Marrie Marriel

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.

#### TEST IN ACCORDANCE TO ASTM C39 STANDARDS



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



Press "Print" to print the test result graphic.



Press "Start" to begin the test.



# **CONCRETE TEST EQUIPMENTS**



Press "Print" to print the test result graphic.

#### 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.



#### LS SEMI-AUTOMATIC COMPRESSION TESTING MACHINES

#### Product Code

TMC-5218 | 600 kN Semi-Automatic Compression Testing Machine, 220-240 V 50-60 Hz TMC-5218/110 | 600 kN Semi-Automatic Compression Testing Machine, 110 V 60 Hz 1 1500 kN LS Semi-Automatic Compression Testing Machine. 220-240 V 50-60 Hz TMC-5219 TMC-5219/110 | 1500 kN LS Semi-Automatic Compression Testing Machine - 110 V 60 Hz

#### Standards

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

#### Description

The Testmak LS series Low Strength Semi-Automatic Compression Testing Machines have been manufactured for consistent testing 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 "TCM 304" software with computer. Tests can be performed by either on TCM 304 Unit or on a computer with using free software. Can be done tests on computer with using TCM 304 software and such as reporting, graphical output. Low Capacity Automatic Compression Testing Machines are supplied in Class 1 starting from 50 kN. Surface hardness 55HRC, flatness tolerance 0.02 mm. Traceable certificate of surface hardness available on request.

**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.

- 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.

LS Semi-Automatic Compression Testing Machines supplied complete with following accessories;

- 1- Spacer Discs:
- 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
- 2- Upper Platen;
- Upper Platen Diameter 165 mm (with ball seating assembly)
- 3- Lower Platen:
- Lower Platen Diameter 165 mm
- 4- Piston:
- Piston Diameter 160 mm (For 600 kN Capacity Models)
- Piston Diameter 200 mm (For 1500 kN Capacity Models)
- 5- Semi-Automatic Hydraulic Power Pack ;
- Semi-Automatic Hydraulic Power Pack, 410 bar (For All Models) Safety Features
- Maximum pressure valves to avoid machine overloading
- · Piston travel limit switch
- · Front and rear transparent durable plexiglas guards

# CONCRETE TEST EQUIPMENTS



Product Code	TMC-5218	TMC-5219
Standards	ASTM C39	ASTM C39
Capacity	600 kN	1500 kN
Sample	4", 6" dia. cylinders 100 mm cubes	6" dia. cylinders 100, 150 mm cubes
Upper Platens Dim.	Ø 165 mm	Ø 165 mm
Lower Platens Dim.	Ø 165 mm	Ø 165 mm
Max. Vertical Clearance	340 mm	370 mm
Max. Horizontal Clearance	230 mm	320 mm
Piston Diameter	160 mm	200 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	650x500x1250 mm	750x540x1300 mm
Weight	490 kg	680 kg

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#### HS FOUR COLUMN AUTOMATIC COMPRESSION TESTING MACHINES

#### Product Code

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

#### Standards

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

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.

Testmak HSF 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 ASTM C39, 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.

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.

HSF 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;
- Diameter 165 mm (with ball seating assembly) (For ASTM Standards)
- Diameter 300 mm (with ball seating assembly) (For EN Standards)
- 3- Lower Platen:
- Diameter 165 mm Lower Platen (For ASTM Standards)
- Diameter 300 mm Lower Platen (For EN Standards)



#### HS FOUR COLUMN AUTOMATIC COMPRESSION TESTING MACHINES

4- Piston;

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- Diameter 250 mm Lower Platen (For 2000 kN Capacity Models)
- Diameter 300 mm Lower Platen (For 3000 kN Capacity Models)
- 5- Automatic Hydraulic Power Pack ;
- Automatic Hydraulic Power Pack, 410 bar (For All Models) 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
- 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. 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.

Product Code	TMC-3224	TMC-3228	TMC-5224	TMC-5228
Standards	EN	EN	ASTM	ASTM
Capacity	2000 kN	3000 kN	2000 kN	3000 kN
Sample	100x200,150x300,160x320 mm cylinders 100, 150, 200 mm cubes	100x200,150x300,160x320 mm cylinders 100, 150, 200 mm cubes	4" , 6" dia. cylinders 100 mm cubes	4" , 6" dia. cylinders 100 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 165 mm	Ø 165 mm
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	870 kg	1100 kg	850 kg	1050 kg

# CONCRETE TEST EQUIPMENTS



#### HS WELDED FRAME AUTOMATIC COMPRESSION TEST MACHINES

#### Product Code

TMC-3222 2000 kN Capacity Automatic Compression Testing Machine EN Standards - 220-240 V 50-60 Hz TMC-5222 2000 kN Capacity Automatic Compression Testing Machine ASTM Standards - 220-240 V 50-60 Hz TMC-5222/110 | 2000 kN Capacity Automatic Compression Testing Machine ASTM Standards - 110 V 60 Hz

| 3000 kN Capacity Automatic Compression Testing Machine EN Standards - 220-240 V 50-60 Hz TMC-3226 TMC-5226 | 3000 kN Capacity Automatic Compression Testing Machine ASTM Standards - 220-240 V 50-60 Hz TMC-5226/110 | 3000 kN Capacity Automatic Compression Testing Machine ASTM Standards - 110 V 60 Hz

#### Standards

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

#### Description

The TESTMAK HS Automatic Compression Testing Machines Compressive strength or compression strength is the capacity of a material or structure to withstand loads tending to reduce size, as opposed to tensile strength, which withstands loads tending to elongate. Compressive strength is usualy measured on a compression testing machine; These systems range from to ones with over 2000 kN to 3000 kN capacity. Measurements of compressive strength are affected by the specific test method and conditions of measurement. Compressive strengths are usually reported in relationship to a specific international standard.

The Testmak HS series Automatic Compression Testing 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.

HS 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) 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

#### HS WELDED FRAME AUTOMATIC COMPRESSION TEST MACHINES

#### LCD Data Acquisition Control System

Received and 1923

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. 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.

Product Code	TMC-3222	TMC-3226	TMC-5222	TMC-5226
Standards	EN	EN	ASTM	ASTM
Capacity	2000 kN	3000 kN	2000 kN	3000 kN
Frame Type	Welded Frame (TMC-3192)	Welded Frame (TMC-3194)	Welded Frame (TMC-3193)	Welded Frame (TMC-3195)
Sample	100,150,160 mm cylinders - 100, 150, 200 mm cubes	100,150,160 mm cylinders - 100, 150, 200 mm cubes	4" , 6" dia. cylinders 100 mm cubes	4" , 6" dia. cylinders 100 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 165 mm	Ø 165 mm
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	750x500x1400 mm	925x550x1500 mm	750x500x1400 mm	925x550x1500 mm
Weight	800 kg	1070 kg	780 kg	1030 kg

# CONCRETE TEST EQUIPMENTS





#### 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



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.

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Press "Print" to print the test result graphic.

# 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.

# 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 TEST-MAK 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.

D 📽 🖬 🚭	Comm.	No connection				
Owner	TESTMAK			ī.		
Address	ANKARA / T	URKEY				
Standard	PRESSURE	CUBE		New Test	Delete Test	
Diemension	100x100x100	lmm				
Report no-date	1					
7 Day	Unit	[Test 1]	Test2	Test 3	Test 4	
B.Force	kN					
Strength	N/mm2					
Load rele	MPa	0.6				
Area	cm2	100.00				
Mess	gi	2000				
Volume	cm3	1000,000				
Denzity	gi/cm3	2.000				
Specimen getting date		23.02.2017				
Evoluation date		2 03 2017				
Age	Day	7				
Concrete class		C35/45				
Concrete additive		Sika-14				
Getting place		Testmak				
Temperature	C degree	25				
Specimen number		I				



#### HSB AUTOMATIC BLOCK COMPRESSION TEST MACHINES

#### Product Code

TMC-5232		2000 kN Automatic Block Compression Testing Machine, 220-240 V 50-60 Hz
TMC-5232/110	ĺ	2000 kN Automatic Block Compression Testing Machine, 110 V 60 Hz
TMC-5234	ĺ	3000 kN Automatic Block Compression Testing Machine, 220-240 V 50-60 Hz - 220-240 V 50-60 Hz
TMC-5234/110		3000 kN Automatic Block Compression Testing Machine, 110 V 60 Hz

#### Standards

ASTM E447 | EN 772-1 | BS 6073 | UNE 83304 | BS 1610 | NF P18-411 | UNI 6686 Part 1 and 2 | ASTM C39 | AASHTO T22

#### Description

The Testmak HSB series Automatic Block Compression Testing Machines are to test block specimens maximum 500x300 mm, cubes up to 300 mm side and cylinders up to diameter 160x320 mm. Exceeding of the ASTM E447, ASTM C39 standard provisions (starts with the 10% of the machine capacity), the TCM-5232 and TCM-5234 are supplied in Class 1 starting from 50 kN. This exceptional performance enables the machines to be used for a considerable number of applications including:

HSB Automatic Block Compression Testing Machines supplied complete with following accessories;

- 1- Spacer Discs;
- 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

2- Upper Platen;

- Upper Platen 310x500x38 mm (with ball seating assembly) 3- Lower Platen;
- Lower Platen 310x500x38 mm
- 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) Testable Specimens
- Concrete Block: Maximum 500x300 mm.
- 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.
- 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.



#### 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.

Product Code	TMC-5232	TMC-5234
Capacity	2000 kN	3000 kN
Sample	Concrete Block	Concrete Block
Upper Platens Dim.	310x500x38 mm	310x500x38 mm
Lower Platens Dim.	310x500x38 mm	310x500x38 mm
Max. Vertical Clearance	370 mm	370 mm
Max. Horizontal Clearance	360 mm	425 mm
Piston Diameter	250 mm	300 mm
Max. Piston Movement	50 mm	50 mm
Max. Working Pressure	410 Bar	410 Bar
Oil Capacity	18 Liters	18 Liters
Power	1100 W	1100 W
Dimensions	850x550x1400 mm	925x550x1500 mm
Weight	880 kg	1100 kg

#### **REDAOUT UNIT & SOFTWARE**

When energized to the device, on the digital indicator display will show the following information.



# PARQUET TEST

DIMENSION SELECTION



#### **KERB TEST**

DIMENSION SELECTION



Flexural Strength Test on concrete kerb units according to EN 1340.

Additional flexure frames and flexure apparatus are required for this test in addition to distance pieces.

**BRICK - BEAM TEST** 

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DIMENSION SELECTION



Can do test with enter LxWxH values.

1- Can enter L value with push arrow. And can save this value with choose press arrow button.
 2- Can enter W value with push arrow. And can save this value with choose press arrow button.
 3- Can enter H value with push arrow. And can save this value with choose press arrow button.
 4- You can start for test after enter LxWxH values. And You can push TEST.

# **CONCRETE TEST EQUIPMENTS**



#### **BEAM TEST**

#### **DIMENSION SELECTION**

The Center Point Flexure Strength Test on concrete beam. (EN 12390-5)

a) Flexure Strength Test on slabs of natural stone for external paving specimens (EN 1341) according to EN 12372.

Additional flexure frames and flexure apparatus are required for this test in addition to distance pieces.

b) Flexure Strength Test on kerbs of natural stone for external paving (EN 1343) according to EN 12372

Additional flexure frames and flexure apparatus are required for this test in addition to distance pieces.

c) Flexure Strength Test on concrete paving flags specimens (EN 1339) according to EN 12372 Additional flexure frames apparatus are required for this test in addition to distance pieces.

#### HS SEMI - AUTOMATIC COMPRESSION TEST MACHINES

I	Product Cod	e				
TI TI TI TI TI TI	MC-3229 MC-5229 MC-5229/110 MC-3230 MC-5230 MC-5230/110	2000 kN   2000 kN   2000 kN   3000 kN   3000 kN   3000 kN	Semi-Automatic Semi-Automatic Semi-Automatic Semi-Automatic Semi-Automatic Semi-Automatic	Compression Compression Compression Compression Compression	Testing Testing Testing Testing Testing Testing	Machine EN Machine AS Machine AS Machine EN Machine AS Machine AS



#### ASTM C39 | AASHTO T22 | ISO EN 7500 | EN 12390-4



Description

The Testmak HS series Semi-Automatic Compression Testing Machines have been manufactured for consistent testing of concrete cube and cylinder specimens. These machines are produced to capacity range of 2000 kN to 3000 kN. Suitable for CE security norms and EN 12390-3, 12390-4, BS 1881, ASTM C39, AASHTO 22 to standards. TESTMAK Semi-Automatic Compression Testing Machines are supplied in Class 1 starting from 10%. Surface hardness 55HRC, flatness tolerance 0.02 mm. Traceable certificate of surface hardness available on request. The Semi-Automatic compression machines consist of a heavy duty welded frame. The suitable vertical clearance for specimen can be adjusted with distance pieces . 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.

# **CONCRETE TEST EQUIPMENTS**

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N, 220-240 V 50-60 Hz STM, 220-240 V 50-60 Hz STM, 110 V 60 Hz N, 220-240 V 50-60 Hz STM, 220-240 V 50-60 Hz STM - 110 V 60 Hz



#### HS SEMI - AUTOMATIC COMPRESSION TEST 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.
- HSW Semi-Automatic Compression Testing Machines supplied complete with following accessories;

TMC-3229

1- Spacer Discs;

Product Code

- 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 50 mm spacer disc 1 piece
- Diameter 205 mm x Height 30 mm spacer disc 1 piece
- Blameter 200 mill x Holght of him option alog i ploto

#### 2- Upper Platen;

- Diameter 165 mm (with ball seating assembly) (For ASTM Standards)
- Diameter 300 mm (with ball seating assembly) (For EN Standards) 3- Lower Platen:
- Diameter 165 mm Lower Platen (For ASTM Standards)
- Diameter 300 mm Lower Platen (For EN Standards)
- 4- Piston;
- Diameter 250 mm Lower Platen (For 2000 kN Capacity Models)
- Diameter 300 mm Lower Platen (For 3000 kN Capacity Models)
- 5- Semi-Automatic Hydraulic Power Pack ;
- Semi-Automatic Hydraulic Power Pack, 410 bar (For All Models) Safety Features
- Maximum pressure valves to avoid machine overloading

TMC-5229

TMC-5230

· Piston travel limit switch

#### AUTOMATIC FLEXURAL TESTING MACHINE

#### Product Code

Cartana and a second and

TMC-5240   200 kN Automatic Flexural Testing Machine, 220-240 V 50-	60
TMC-5240 /110   200 kN Automatic Flexural Testing Machine, 110 V 60 Hz	
TMC-5242   300 kN Automatic Flexural Testing Machine, 220-240 V 50-	60
TMC-5242 /110   300 kN Automatic Flexural Testing Machine, 110 V 60 Hz	
TMC-5244   600 kN Automatic Flexural Testing Machine, 220-240 V 50-	60
TMC-5244 /110   600 kN Automatic Flexural Testing Machine. 110 V 60 Hz	

#### Standards

#### TS EN 1390-5 | ASTM C78, 293 | AASHTO T97 | BS1881:118

#### Description

The Automatic Flexural Testing Machines are range of 200 kN, 300 kN and 600 kN capacity flexure testing machines have been designed for reliable and consistent testing of flexural test on standard concrete beams, concrete or natural stone kerbs, concrete paving flags, and natural stone slabs and tensile splitting test of concrete paving blocks. These flexure testing machines are the result of con tinuous research to upgrade the testing machines with latest technologies to conform to the latest standards EN 12390-5, EN 12390-6, EN 1338, EN 1340, BS 1881, ASTM C78, C293 and C496 in terms of its technical properties taking into account client requirements. These also meet the requirements of CE norms for health and safety of the operator. Tests can be performed by either on TMC300 Unit or on a computer with using free software. The advantages of performing tests on computer with using software, such as reporting, graphical output, etc. Setting test parameters, including pace rate only required when the specimen type is changed. Pressing the START button on the control unit.

The machine automatically starts the rapid approach; switches the test speed after 1% of the load capacity of the machine and stops once the specimen failure. Automatically saves the test parameters and test results.

The Testmak range of Flexural Machines have the accuracy of Class 1 starting from 2% of the full capacity. Flextural test assemblies should be ordered separately.

Product Code	TMC-5240	TMC-5242	TMC-5244
Standards	EN	EN	EN
Capacity	200 kN	300 kN	600 kN
Class 1 Range	4-200 kN	6-300 kN	12-600 kN
Ram Travel	100 mm	120 mm	350 mm
Max. Vertical Clearance	425 mm	425 mm	930 mm
Max. Horizontal Clearance	650 mm	640 mm	640 mm
Max. Clerance Between Lower Rollers	900 mm	900 mm	2000 mm
Piston Diameter	160 mm	160 mm	200 mm
Max. Piston Movement	75 mm	75 mm	75 mm
Max. Working Pressure	315 Bar	315 Bar	315 Bar
Oil Capacity	18 Liters	18 Liters	18 Liters
Power	1100 W	1100 W	1100 W
Dimensions	1450x950x1200 mm	1450x950x1200 mm	1550x2000x2700 mm
Weight	325 kg	630 kg	2650 kg

Standards	EN	EN	ASTM	ASTM
Capacity	2000 kN	3000 kN	2000 kN	3000 kN
Frame Type	Welded Frame (TMC-3192)	Welded Frame (TMC-3194)	Welded Frame (TMC-3193)	Welded Frame (TMC-3195)
Sample	100,150,160 mm cylinders - 100, 150, 200 mm cubes	100,150,160 mm cylinders - 100, 150, 200 mm cubes	4" , 6" dia. cylinders 100 mm cubes	4" , 6" dia. cylinders 100 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 165 mm	Ø 165 mm
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	750 W	750 W	750 W	750 W
Dimensions	740x500x1350 mm	805x540x1400 mm	740x500x1350 mm	805x540x1400 mm
Weight	790 kg	1060 kg	770 kg	1040 kg

TMC-3230

# **CONCRETE TEST EQUIPMENTS**



#### www.testmak.com

#### AUTOMATIC CONCRETE PIPE TEST MACHINE

# Product Code

TMC-3240 | 500 kN Automatic Pipe Testing Machine, 220-240 V 50/60 Hz

#### Standards

#### ASTM C301, C497 | EN 1916



Concrete Pipe Test Machine is the pressure test concrete and steel fiber concrete pipes made of concrete and reinforced concrete structural elements are used to determine the compressive strength. Maximum load capacity is 500 kN. Concrete Pipe Test machine can do test inner diameter of up to 100 mm to 1200 mm concrete pipes. Easily adjustable according to the pipe diameter with the top plate lifts.

#### **Technical Specification**

- Load capacity is 500 kN.
- Full automatic hydraulic unit.
- Double pump system.
- Adjustable load rate between 0.5 and 25 kN /s.
- Accuracy is 0.5 % of indicated load.
- Pressure transducer with accuracy 1% accuracy.
- Together with GLCD screen and Software

P. Code	Dimensions(mm)	Weight (kg)
TMC-3240	1500x2100x2500 mm	1750 kg

#### SLUMP TEST SET

#### Product Code

TMC-3560 | Slump Test Set TMC-3561 | Slump Cone, Galvanized Steel TMC-3562 | Slump Base Plate 500x500x60 mm with Handle TMC-3563 | Slump Funnel, Galvanized Steel TMC-3564 | Tamping Rod Ø 16x600 mm TMC-3565 | Tamping Rod Ø 10x300 mm TMG-0450 | Rubber Mallet TMG-0682 | Steel Ruler 300x1 mm TMG-0512 | Round Scoop, Medium TMG-0410 | Wire Brush with Handle

#### Standards

#### EN 12350 -2 | ASTM C143 | BS 1881: 102



Description

The Slump Cone Test Set is used for the determination of the consistency and workability of fresh concrete. It is used, indirectly, as a means of checking that the correct amount of water has been added to the mix. The test is carried out in fresh concrete. The Slump Test Set is galvanized to prevent corrosion.

#### The TMC-3560 Slump Test Set are supplied complete with;

- Slump Cone Top Dia: 100 ±2 mm / Base Dia: 200 ±2 mm / Height: 300 ±2 mm
- Slump Base Plate 500x500x60 mm with Handle
- Slump Funnel, Galvanized Steel
- Tamping Rod Ø 16x600 mm
- Rubber Mallet
- Steel Ruler 300x1 mm
- Round Scoop Medium
- Wire Brush with Handle
- Steel Ruler 300x1 mm
- Wire Brush with Handle

P. Code	Dimensions(mm)	Weight (kg)
TMC-3560	550x600x250 mm	7 kg

#### CONCRETE FLOW TABLE

#### Product Code

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TMC-3320 | Concrete Flow Table Test Set TMC-3322 | Flow Cone for TMC-3320 TMC-3323 | Wooden Tamper 40x40x335 mm

#### Standards

EN 12350-5



#### Description

The flow table set is used for concrete mixes of high workability and determines flow index as an arithmetic mean of the diameter of the specimen after working on a flow table.

The flow table set consists of a double steel table, an upper table measuring 700x700 mm and hinged at one side to the lower table.

All parts are protected against corrosion. The stainless steel cone has a 130  $\pm$ 2 mm top diameter, 200  $\pm$ 2 mm base diameter and 200  $\pm$ 2 mm height and 1.5 mm thickness.

#### The TMC-3320 Concrete Flow Table is supplied complete with;

- Flow Cone
- Wooden Tamper

P. Code	Dimensions(mm)	Weight (kg)
TMC-3320	700x850x300 mm	32 kg

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# J RING TEST APPARATUS

#### Product Code

TMC-3420   J Ring Apparatus Test Set
TMC-3421   J-Ring, Narrow Gap
TMC-3422   Base Plate for J-Ring and Slump-Flow Tests
TMC-3423   Steel Weighted Collar, 9 kg
TMC-3561   Slump Cone for TMC-3420

#### Standards

EN 12350-12



#### Description

The J-Ring Test Apparatus is used for determining the passing ability, the flow spread and t500 flow time of the self compacting concrete as the concrete flows through the J-Ring. The apparatus consists of a stainless steel crown with 16 bars 18 mm dia.

#### The TMC-3420 J-Ring Test Apparatus is supplied complete with;

- J-Ring, Narrow Gap
- Base Plate for J-Ring and Slump-Flow Tests
- Steel Weighted Collar, 9 kg
- Slump Cone for TMC-3420

P. Code	Dimensions(mm)	Weight (kg)
TMC-3420	900x900x300 mm	32 kg

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#### V FUNNEL TEST APPARATUS

Product Code

TMC-3620 | V Funnel Test Apparatus

Standards

EN 12350-12

#### Description

The V Funnel Apparatus is used to evaluate the flow time of freshly mixed self-compacting concrete. The test set consists of a stainless steel funnel placed vertically on a supporting stand. The discharge orifice is equipped with a lid, which can be momentarily opened.

P. Code	Dimensions(mm)	Weight (kg)	
TMC-3620	530x300x1100 mm	20 kg	



#### WALTZ CONTAINER

-

#### Description

The Waltz Container is used to measure the degree of compactability of fresh concrete. It consists of a 200x200x400 mm metal container with two carrying handles. The Waltz Container is coated against corrosion.

P. Code	Dimensions(mm)	Weight (kg)
TMC-2384	300x210x410 mm	6 kg

# KELLY BALL TEST APPARATUS

# Product Code

TMC-3440 | Kelly Ball Test Apparatus

Standards	
EN 12350-4	

#### Description

The Kelly Ball Test Apparatus is used for determining the consistency of fresh concrete. The Kelly Ball Apparatus consists of a 6 inch (152 mm) diameter ball which slides through a frame that rests on the fresh concrete.

P. Code	Dimensions(mm)	Weight (kg)
TMC-3440	360x160x360 mm	16 kg

# L SHAPE BOX APPARATUS

Product Code

TMC-3450 | L Shape Box Apparatus

Standards

EN 12350-10

#### Description

The L Shape Box is used for determining the passing ability rate of freshly mixed self-compacting concrete. The distance between 12 mm diameter bars can be set between 40 mm or 59 mm.

The L Shape Box Apparatus is supplied complete with;

#### • Filling Hopper

Base

P. Code	Dimensions(mm)	Weight (kg)	
TMC-3450	700x300x650 mm	40 kg	



# CONCRETE TEST EQUIPMENTS





#### CONCRETE POCKET PENETROMETER

# Product Code

TMC-3430 | Concrete Pocket Penetrometer

# Standards

#### ASTM C1362



#### Description

The Concrete Pocket Penetrometer is used for the determination of setting time of fresh concrete. Stainless steel plunger has  $32.3 \text{ mm}^2$  (1/20 in<sup>2</sup>) area and 0-5 MPa measuring range.

P. Code	Dimensions(mm)	Weight (kg)
TMC-3430	15x15x200 mm	0,4 kg

# **VEBE CONSISTOMETER**

#### Product Code

TMC-3624 | Vebe Consistometer EN, 220-240 V 50-60 Hz

# Standards

#### EN 12350-3 | ASTM C1170



#### Description

The Vebe Consistometer is used to determine the consistency of fresh concrete by subjecting the concrete specimen to vibration after removal of the slump cone. The assembly is mounted upon a small vibrating table operating at a fixed amplitude and frequency. The time to complete the required vibration gives an indication of the concrete consistency.

#### The Vebe Consistometer is supplied complete with;

- Vibrating table
- Slump cone
- · Graduated rod with transparent disc
- Filling funnel
- Tamping rod

Technical Specifications		
Vibrating Table	380x260 mm	
Cylindrical Bucket Base Diameter	240 mm	
Cylindrical Bucket Height	200 mm	
Slump Cone Upper Base Diameter	200 mm	
Slump Cone Top Diameter	100 mm	
Slump Cone Height	300 mm	
Dimensions	560x450x650 mm	
Weight (approx.)	80 kg	
Power	170 W	

#### **COMPACTION FACTOR APPARATUS**

#### Product Code

TMC-3280 | Compaction Factor Apparatus

#### Standards

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BS 1881-103, 5075 | EN 12390-3



#### Description

Compaction Factor Test Apparatus is designed to undertake a more precise and sensitive test procedure than the simple slump test. The compacting factor is the ratio between the weight of the partially compacted concrete and the weight of the fully compacted concrete. The apparatus consists from two conical hoppers mounted on a cylinder. The hoppers and the mould are mounted onto a rigid steel frame and are easily removable for cleaning.

P. Code	Dimensions(mm)	Weight (kg)
TMC-3280	320x420x1300 mm	45 kg

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# UNIT WEIGHT MEASURE

#### Product Code

TMA-1141 | Unit Weight Measure 3 Liters TMA-1143 | Unit Weight Measure 7 Liters TMA-1144 | Unit Weight Measure 10 Liters TMA-1146 | Unit Weight Measure 15 Liters TMA-1148 | Unit Weight Measure 30 Liters

#### Standards

#### EN 12350-6 | ASTM C29, C138



#### Description

Made from heavy steel sheet, protected against corrosion they are used to determine the weight per cubic metre of freshly mixed and compacted concrete, and also the air content of fresh concrete Used also for the determination of loose bulk density and voids of aggregate.

P. Code	Dimensions(mm)	Weight (kg)
TMA-1141	150x200x200 mm	4,7 kg
TMA-1143	250x180x250 mm	6,8 kg
TMA-1144	250x200x300 mm	8,5 kg
TMA-1146	250x300x320 mm	13 kg
TMA-1148	300x360x420 mm	16 kg

#### AIR ETRAINMENT METER

#### Product Code

TMC-3255 | Air Entrainment Meter TMC-3256 | Manometer for TMC-3255 TMC-3257 | Tamping Rod Ø16x600 mm TMS-4482 | Straight Edge 300x30x5 mm

#### Standards

#### EN 12350-7 | ASTM C231 | AASHTO T152



#### Description

The TMC-3255 Air Entrainment Meter is used to determine air content of fresh concrete. The primary purpose of air entrainment is to increase the durability of the hardened concrete. Direct pressure gauge reading to the nearest 0.1% up to 6% and 0.2% from 6 to 10%. Air Entrainment Meter measures up to 22% of entrained air. The Air Meter is can be calibrated. This instrument is 7 liter capacity and it is supplied complete with pump, manometer, tamping rod and straight edge.

#### The Air Entrainment Meter is supplied complete with;

- Straight Edge
- Tamping Rod
- Wash Bottle. 250 cc
- · J-Type pipe and an inner extension pipe for calibration
- · Carrying Case

Technical Specifications		
Capacity	7 Liters	
Air Content Range	0 - 10%	
Graduations	0.1% up to 6%; 0.2% from 6 to 10%	
Dimensions	320x320x650 mm	
Weight (approx.)	17 kg	

#### CONRETE MIXER PAN TYPE

#### Product Code

TMC-3500| Concrete Mixer Pan Type - 220-240 V 50-60 HzTMC-3500/110 | Concrete Mixer Pan Type - 110 V 60 Hz

#### Standards

EN 1766



#### Description

The efficient mixing of concrete is essential if quality specimens are to be manufactured. Pan type mixers are used for mixing of dry and wet materials in the laboratory. The mixing pan is tilts 135° for easy emptying after completion of the operation.

The total volume of the pan is 110 liters but the effective capacity of the mixer is 56 liters. The mixer has mixing blades. The blades can be adjusted to suit the different types and volume of materials to be mixed. The Pan type concrete mixer can be moved by rubber wheel. The gearbox is produced as parallel to floor for the motor to protect.

Technical Specifications		
Pan Capacity	110 Liters	
Effective Mixing Capacity	56 Liters	
Dimensions	1000x1100x1200 mm	
Weight (approx.)	250 kg	
Power	1500 W	

#### CONRETE MIXER DRUM TYPE

#### Product Code

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TMC-3506| Concrete Mixer Drum Type - 220-240 V 50-60 HzTMC-3506/110| Concrete Mixer Drum Type - 110 V 60 HzTMC-3507| Concrete Mixer Drum Type Diesel Engine Model

#### Standards

#### EN 1766



#### Description

The Drum type concrete mixer is used for efficient mixing of concrete, plaster and mosaic. The unit has wheels and lifting handles for easy transport, making it a versatile and user friendly mixer. Control wheel permits a 360 degree rotation. Available in both petrol, diesel or electric.

Technical Specifications			
Drum Volume	132 Liters		
Mixing Volume	125 Liters		
Mixing Capacity	2-3 m³ /h		
Dimensions	650x1150x1000 mm		
Weight (approx.)	42 kg		
Power for Electric Model	750 W		
Power for Diesel Engine Model	3.5 Hp		

# **CONCRETE TEST EQUIPMENTS**

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### CONRETE PLASTIC CUBE MOULDS

#### Product Code

#### Standards

#### EN 12390-1



#### Description

TMC-3484 and TMC-3482 Hard plastic cube moulds are manufactured in accordance with dimensions and tolerances stated in the relevant standard. Manufactured from robust plastic are one piece and the specimens are ejected from the moulds by compressed air. The TMC-3484 and TMC-3482 weights are 2 kg.

TMC-3486 High quality plastic cube moulds are manufactured from lightweight polyurethane material and one piece. High quality plastic cube moulds are manufactured in accordance with dimensions and tolerances stated in the standards. The specimens are ejected from the moulds by compressed air. The TMC-3486 weight is 850 g.

P.Code	Description	Weight	Dimensions
TMC-3482	100 mm 2 Gang	2 kg	260x120x120 mm
TMC-3484	150 mm Hard plastic	2 kg	220x220x180 mm
TMC-3486	150 mm High Quality	0,850 kg	220x220x180 mm

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#### CONRETE STEEL CUBE MOULDS

# Product Code

TMC-3522 | Concrete Steel Cube Mould 100 mm TMC-3524 | Concrete Steel Cube Mould 150 mm TMC-3526 | Concrete Steel Cube Mould 200 mm

#### Standards

EN 12390-1

# TMC-3522

#### Description

Concrete steel cube moulds are manufactured in accordance with dimensions and tolerances stated in the standards. Four part body and attached to the base with a robust clamp, the cast iron moulds are designed to be durable, corrosion resistant and easy to clean.

P.Code	Description	Weight	Dimensions
TMC-3522	100 mm Steel Cube	10 kg	270x270x120 mm
TMC-3524	150 mm Steel Cube	15 kg	220x220x180 mm
TMC-3526	200 mm Steel Cube	20 kg	330x270x220 mm

#### CONRETE BEAM MOULDS

#### Product Code

TMC-3262 | Concrete Beam Mould 100x100x400 mm Steel TMC-3264 | Concrete Beam Mould 100x100x500 mm Steel TMC-3266 | Concrete Beam Mould 150x150x600 mm Steel TMC-3268 | Concrete Beam Mould 150x150x750 mm Steel

#### Standards

EN 12390-1 | ASTM C78, C293



#### Description

Steel beam moulds are manufactured in accordance with dimensions and tolerances stated in the standards. Two part and clamp attached base plate, the steel moulds are manufactured to be durable, corrosion resistant and easy to clean.

P.Code	Description	Weight	Dimensions
TMC-3262	100x100x400 mm Steel	20 kg	170x510x150 mm
TMC-3264	100x100x500 mm Steel	22 kg	170x600x160 mm
TMC-3266	150x150x600 mm Steel	34 kg	220x700x220 mm
TMC-3268	150x150x750 mm Steel	36 kg	300x300x330 mm

#### CONRETE STEEL CYLINDER MOULDS

#### Product Code

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TMC-3272 | Concrete Cylinder Mould Ø 100x200 mm Steel TMC-3274 | Concrete Cylinder Mould Ø 150x300 mm Steel TMC-3276 | Concrete Cylinder Mould Ø 160x320 mm Steel

#### Standards

EN 12390-1 | ASTM C470, C192



#### Description

Steel cylinder moulds are manufactured in accordance with dimensions and tolerances stated in the standards. Two part and clamp attached base steel plate. Steel moulds are designed to be durable, corrosion resistant and easy to clean.

P.Code	Description	Weight	Dimensions
TMC-3272	Ø 100x200 mm Steel	5 kg	160x160x210 mm
TMC-3274	Ø 150x300 mm Steel	8 kg	250x250x310 mm
TMC-3276	Ø 160x320 mm Steel	10 kg	300x300x330 mm

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### CONRETE POKER VIBRATOR

#### Product Code

TMC-3391 | Concrete Poker Vibrator Ø 22 mm - 220-240 V 50-60 Hz TMC-3392 | Concrete Poker Vibrator Ø 22 mm - Gasoline Model 2 Hp

#### Standards

EN 12390-2 | ASTM C31, C192 | AASHTO T23, T126



#### Description

The Concrete Vibrators are suitable for use in lab and field conditions. Needle diameter, sample size should not exceed 25%. Chassis with protected system. The Vibrators designed two models including electric and gasoline engines.

P.Code	Description
Type&Shaft	Ø22x350 mm tip-2 m shaft
Frequency	12.000 vib/min
Dimensions	160x850x360 mm
Weight	15 kg
Power for Electric Model	220-240 V 50-60 Hz
Power for Gasoline Model	2 Hp

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#### **CONRETE VIBRATING TABLES**

# Product Code

TMC-3642 | Vibrating Table Small Type - 220-240 V 50-60 Hz TMC-3644 | Vibrating Table Medium Type - 220-240 V 50-60 Hz TMC-3646 | Vibrating Table Large Type - 220-240 V 50-60 Hz

#### Standards

EN 12390-2 | BS1881:108 | UNI 6127



#### Description

The vibrating tables are providing controlled vibro-compaction for cube or cylinder moulds. Vibrating tables consist of vibrating motor, command unit and clamping assembly. The vibrating tables manufactured to operate with minimum noise level and 3000 vibrations per minute (3600 rpm at 60 Hz). Retaining edges to avoid the casual fall of the mould from the table. The vibrating tables are produced 600x400 mm, 800x400 mm and 1250x600 mm as 3 different sizes.

P.Code	Dimensions	Weight	Power
TMC-3642	450x650x800 mm	55 kg	170 W
TMC-3644	450x850x1000 mm	90 kg	170 W
TMC-3646	630x1270x1200 mm	120 kg	170 W

#### CONRETE CURING TANKS METAL

#### Product Code

TMC-3310 | Concrete Curing Tank Metal Large Type - 220-240 V 50/60 Hz TMC-3310/110 | Concrete Curing Tank Metal Large Type - 110 V 60 Hz Concrete Curing Tank Metal Small Type - 220-240 V 50/60 Hz TMC-3312 TMC-3312/110 | Concrete Curing Tank Metal Small Type - 110 V 60 Hz TMC-3314 Curing Tank Heater for TMC-3210 and TMC-3212 TMC-3315 Curing Tank Heater for TMC-3210/110 and TMC-3212/110 TMC-3316 | Circulating Pump, 220-240 V 50-60 Hz

#### Standards

EN 12390-2 | ASTM C31, C192, C511 | AASHTO T23 | BS1881:111



The Steel Curing Tanks are manufactured for curing concrete cubes and cylinders samples. The temperature can be adjusted and can be kept constant by an electric resistance incorporating a digital thermo regulator which maintains the set temperature between ambient to 40 °C with ± 2 °C accuracy. Manufactured from powder coated sheet steel. Curing Tanks are supplied complete with base rack and circulator pump.

#### The Metal Curing Tanks are supplied complete with;

- Heater
- Circulation Pump
- Base Metal Racks

P.Code	TMC-3310	TMC-3312
External Dimensions	850x1550x600 mm	700x1000x600 mm
Internal Dimensions	800x1500x550 mm	650x950x550 mm
Capacity for Cube 150 mm	135 pcs	70 pcs
Capacity for Cylinder Ø150x300 mm	67 pcs	34 pcs
Weight (approx.)	90 kg	70 kg

#### CONRETE CURING TANKS METAL

#### Product Code TMC-3300 | Concrete Curing Tank Plastic Large - 220-240 V 50/60 Hz TMC-3300/110 | Concrete Curing Tank Plastic Large - 110 V 60 Hz TMC-3302 Concrete Curing Tank Plastic Small - 220-240 V 50/60 Hz TMC-3302/110 | Concrete Curing Tank Plastic Small - 110 V 60 Hz | Curing Tank Heater for TMC-3300 and TMC-3302 TMC-3304 TMC-3305 Curing Tank Heater for TMC-3300/110 and TMC-3302/110

TMC-3306 | Circulating Pump, 220-240 V 50-60 Hz

#### Standards

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EN 12390-2 | ASTM C31, C192, C511 | AASHTO T23 | BS1881:111



#### Description

The Plastic Curing Tanks are manufactured for curing concrete cubes and cylinders samples. The temperature can be adjusted and can be kept constant by an electric resistance incorporating a digital thermo regulator which maintains the set temperature between ambient to 40 °C with ± 2 °C accuracy. Manufactured from 8 mm thick polyurethane material. Curing Tanks are supplied complete with base rack and circulator pump.

The Plastic Curing Tanks are supplied complete with;

- Heater
- Circulation Pump
- Base Metal Racks

P.Code	TMC-3310	TMC-3312
External Dimensions	1100x2100x900 mm	915x1250x660 mm
Internal Dimensions	1000x2000x800 mm	800x1100x550 mm
Capacity for Cube 150 mm	390 pcs	110 pcs
Capacity for Cylinder Ø150x300 mm	195 pcs	52 pcs
Weight (approx.)	135 kg	65 kg

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# CONRETE SPECIMEN CUTTING MACHINE

#### Product Code

TMC-3540 | Concrete Specimen Cutting Machine - 380 V 50 hz 4 Hp TMC-3542 | Concrete Specimen Cutting Machine - 220-240 V 50/60 Hz

#### Standards

EN 12390-3, 12504-1 | ASTM C42, D4543



#### Description

The Concrete Cutting Machine is produced to cut and prepare concrete, rock or natural stone cores or other type test specimens. The machine is supplied complete with "V" block clamp for Ø 100 mm specimens and a water circulation pump. Cutting blade should be ordered separately.

Technical Specifications		
Blade Diameter	350 mm	
Cutting Length	700 mm	
Max. Cutting Height	135 mm	
Dimensions	1100x650x1250 mm	
Weight (approx.)	110 kg	
Engine Power	220-240 V 50/60 Hz	
Water Pump Power	0.37 hp/220 V	

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#### **MELTING POT**

# Product Code

TMC-3350 | Melting Pot 5 Liter Capacity - 220-240 V 50/60 Hz TMC-3350/110 | Melting Pot 5 Liter Capacity - 110 V 60 Hz

#### Standards

EN 12390–3, 12390-1, 12504-1 | ASTM C31, C192, C617, C39, C42 | AASTHO T23, T126



### CYLINDER CAPPING FRAME

# Product Code

TMC-3340 | Cylinder Capping Frame

# Standards

EN 12390-1, 12390-3, 12504-1 | ASTM C31, C39, C42, C192, C617 | ASSTHO T23, T126



#### CONCRETE WATER PERMEABILITY

#### Product Code

TMC-3165 | Impermeability Test Set 3 Specimen Capacity

#### Standards

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TS EN 12390-8 | EN 12364 | DIN 1048 | ISO 7031



#### Description

The Melting pot is used for melting the capping compound. The apparatus 5 liter capacity. The Heating system is to keep the temperature constant in the range of ambient to 150 °C with accuracy  $\pm$  1,5°C. Complete with adjustable thermostat and pilot lamp fully isolated. This instrument manufactured appropriate to CE requirements.

Technical Specifications		
Temperature	Range of ambient to 150 °C	
Accuracy	± 1,5°C	
Dimensions	360x310x300 mm	
Weight (approx.)	8 kg	
Power	600 W	

#### Description

The Cylinder Capping Frame is used to ensure that the planned end surfaces are perpendicular to the axis of the cylinder during the coping process. The frame comprises vertical supports mounted on a steel base. Can be capped for dia150x300 mm, 160x320 mm and 6"x 12" cylinder molds with this unit.

Technical Specifications	
Dimensions	200x200x320 mm
Weight (approx.)	12 kg

#### Description

Water Permeability testing machine is at 3 points to determine the depth of penetration of the water into the concrete (impermeability) under known time and pressure The unit accepts up to 3 concrete cubic, cylindrical or prismatic specimens having max. dimensions of 200x200x200 mm The specimen is put into the test chamber, clamped with suitable flanges and gaskets, and then a known water pressure is applied on the specimen's surface for a time as requested by Standard, by using a suitable air compressor (accessory) having at least 5 bar pressure capacity The water penetrated is measured by breaking the specimen, or by reading the water permeated through the graduated burette fixed on the front panel.

Technical Specifications		
Dimensions	1550x550x1250 mm	
Weight (approx.)	125 kg	

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## CONCRETE WATER PERMEABILITY

#### Product Code

TMC-3170 | Impermeability Test Set 6 Specimen Capacity

#### Standards

TS EN 12390-8 | EN 12364 | DIN 1048 | ISO 7031

#### Description

The Water Permeability Apparatus is at 6 points to determine the depth of penetration of the water into the concrete (impermeability) under known time and pressure The unit accepts up to 6 concrete cubic, cylindrical or prismatic specimens having max. dimensions of 200x200x200 mm The specimen is put into the test chamber, clamped with suitable flanges and gaskets, and then a known water pressure is applied on the specimen's surface for a time as requested by Standard, by using a suitable air compressor (accessory) having at least 5 or 20 bar pressure capacity The water penetrated is measured by breaking the specimen, or by reading the water permeated through the graduated burette fixed on the front panel.

Technical Specifications	
Dimensions	1550x550x1750 mm
Weight (approx.)	195 kg