



Automatic Cement
Compression
Testing Machine
250 kN

CEMENT

Automatic Cement Compression Testing Machine



PRODUCT MODEL

M2560	Automatic Cement Compression Testing Machine 250 kN, 220-240 V 50/60 Hz
M2550/AC5	Compression Jig Assembly to test 50 mm (2") mortar cubes, ASTM
M2550/EC4	Compression Jig Assembly to test portions of 40x40x160 mm mortar prisms, EN
M2550/BC7	Compression Jig Assembly BS, to test 70,7 mm mortar cubes

PRODUCT STANDARDS

Standards | EN 196-1 | BS 3892 | ASTM C109 | NFP18-411 | DIN 1164 | UNE 80101 | EN ISO 679

INFORMATION

Manufacturer	TESTMAK INS.LAB.MAK.SAN.VE TİC. PAZ. İTH. İHR. LTD. STİ
Country of Origin	TURKEY
Product name	Automatic Cement Compression Testing Machine

Automatic Cement Compression Testing Machine

DESCRIPTION

The TESTMAK Automatic range of single testing chamber compression testing machines have been designed for reliable and consistent testing of mortar samples. These compression testers are in suitable international standards (EN 196-1, 459-2, 1015-11, 13454- 2; ASTM C 109, C348, C349 and BS 3892-1, 4551-1). Automatic cement compression machines are manufactured in terms of its technical properties taking into account client requirements by using suitable accessories. These machines also meet the requirements of CE norms for safety and health of the operator. Compression and flexure jigs should be ordered separately.

The TESTMAK automatic cement compression and flexure testing machines consist of very rigid two column single or double chamber frames, automatic hydraulic power pack with data acquisition and control system TCM.

The TESTMAK automatic cement compression and flexure testing machines allow less experienced operators to perform the tests. Once the machine has been switched on and the specimen is positioned and centered by the help of centering apparatus. The only required operations are;

Choosing the compression or flexure test by using the changeover valve.

Pressing the START button on the control unit.

Automatically saves the test parameters and test results.

Power Pack

M2560/05 Automatic Hydraulic Power Pack, dual stage, controlled by TCM is designed to supply the required oil to the load frames for loading. Very silent power pack can load the specimen between 50 N/sec to 2.4 kN/sec with an accuracy of $\pm 5\%$. A Rapid approach pump is supplied as standard. Safety valve (maximum pressure valve) is used to avoid machine overloading.

Motor

The motor which drives the dual pump is an AC motor, 220 V, 50-60 Hz, 1 phase, 1 hp and 1.1 kW and it is controlled by motor inverter. The variation in the oil flow is executed with the variation of the rotation speed of the motor.

Distribution Block

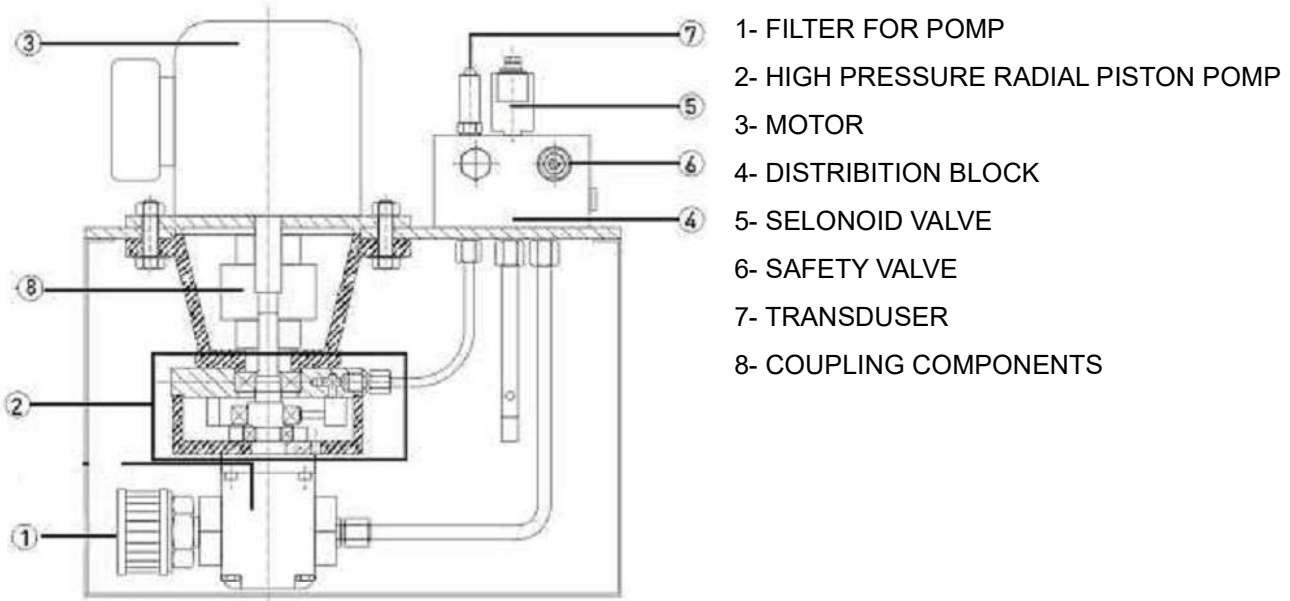
A distribution block is used to control the oil flow direction supplied by the dual stage pump, the following parts are fitted to the distribution block;

- Solenoid valve
- Safety valve (maximum pressure valve)
- Transducer
- High pressure radial piston pump

Automatic Cement Compression Testing Machine

Oil Tank

The tank includes enough oil to fill the mechanism which pushes the ram during the test. The level and oil temperature can be seen on the indicator fitted to the tank. It has 18 L capacity. Hydraulic motor oil, number 46, must be used.



TCM LCD Graphic Display

The TCM LCD Graphic Display is controlled from the front panel, consisting of 240x120 pixels with a high resolution of 65,000 pixels effective resolution of the LCD display and function keys. Two analog channels for the load cell and two digital channels for there is a displacement sensor.

Firmware

The TCM LCD graphic display is controlled using the function keys on the front panel. Two analog channels for the load cell and two digital channels for there is a displacement sensor. Simultaneous load mapping of specific operating conditions, actual load speed and load / time schedule; USB connection to PC; Multi calibration coefficient.

Data collection and PC software

The testing software compression machine is designed for both ASTM, EN and BS STANDARTS compression testing. This software includes controlling the machine, collecting load data and moving, saving them and reports. The compression test of the software samples takes the diameter and height as the input parameter. It automatically calculates the correction factor, coming with respect for the sample size standards. Graphical results and reports can be saved as a MS Excel sheet.

MAIN CHARACTERISTICS

- Automatic flow calculation and stability of values.

Automatic Cement Compression Testing Machine

- 240x120 pixels blue-white graphic LCD.
- High resolution 65,000 dot.
- Backlight function.
- 21 touch keys membrane keyboard.
- Two analog and two digital channels, use for a dynamometer or pressure sensor, etc.
- Standalone fully automatic testing capability.
- You can do manual tests, if required.
- The type of sample and measurement can be entered respect for Standart.
- Load times, time stretches, test results and reports Examples of observed and printed.
- One USB port for connecting either a PC or a printer for data transmissions.
- Supplied with connection cable and software.
- Large permanent memory up to 256 test results.
- Language selection, English and Turkish.

MODEL NO: M2560	
Test Type	Compression
Capacity	250 kN
Class 1 Measuring Range	2.5 to 250 kN
Lower Platen Dimensions	165 mm
Upper Platen Dimensions	165 mm
Max. Vertical Clearance	263 mm
Piston Diameter	160 mm
Maximum Piston Movement	50 mm
Horizontal Clearance	300 mm
Power	1100 W
Oil Capacity	18 Liter
Maximum Working Pressure	125 Bar
Rapid Approach Rate	50 mm
Dimensions	830x500x1300 mm
Weight	320 kg

Automatic Cement Compression Testing Machine



DATA ACQUISITION AND CONTROL SYSTEM

System Parameters Loading...

Version V36.7-56

TEST STANDARDS

EN 12390-4, ASTM C39, EN 196-1

COMPRESSION TEST ON CUBE
AND PRISM SAMPLES

EN 12390-4, ASTM C39

COMPRESSION TEST ON
CYLINDER SAMPLE

EN 12390-5, EN 196-1

3 POINTS FLEXURAL TEST ON
BEAM SAMPLES

EN 12390-4, ASTM C78, 293

4 POINTS FLEXURAL TEST ON
BEAM SAMPLES

EN 12390-6

SHARE STRENGTH TEST ON
CONCRETE SAMPLES

TS 2428, EN 1338

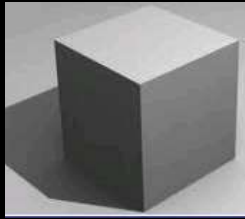
SHARE STRENGTH TEST ON
PARQUET SAMPLES







Automatic Cement Compression Testing Machine

Specimen Dimensions


Cube / Prism Sample Dimensions





Channel / Unit nr:	0.00	
Width (mm):	0.00	
Length (mm):	0.00	
Height (mm):	0.00	

Specimen Dimensions

Cube / Prism Sample Dimensions

Channel / Unit nr:	0.00	 Sample Dimensions Loading...
Width (mm):	0.00	
Length (mm):	0.00	
Height (mm):	0.00	








Automatic Cement Compression Testing Machine





Specimen Dimensions

Cube / Prism Sample Dimensions

Channel / Unit nr:	0.00
Width (mm):	0.00
Length (mm):	0.00
Height (mm):	0.00

 Sample Dimensions Loading...













Specimen Dimensions

Cube / Prism Sample Dimensions

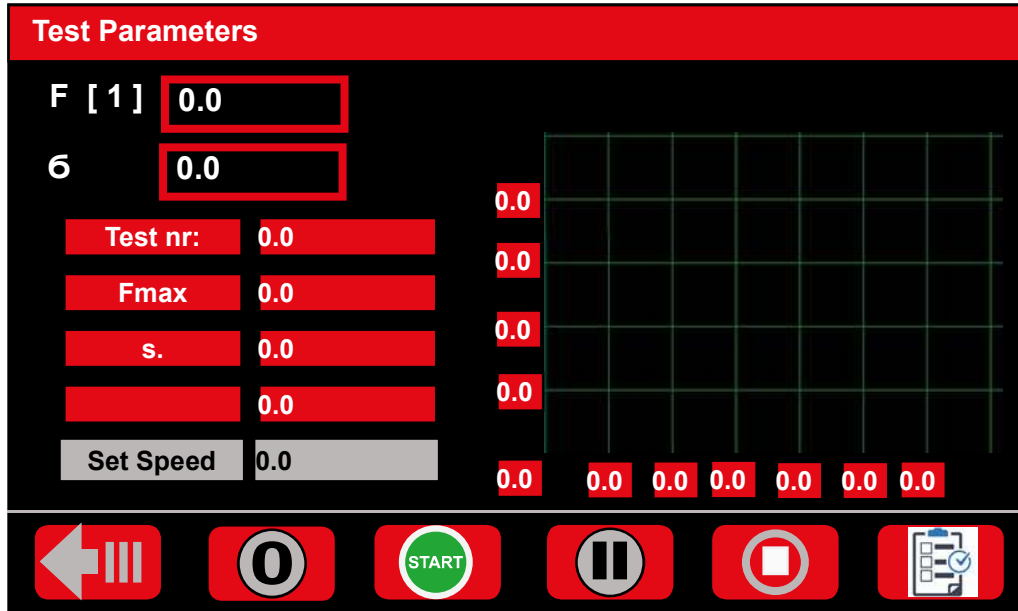
Channel / Unit nr:	0.00
Width (mm):	0.00
Length (mm):	0.00
Height (mm):	0.00





Automatic Cement Compression Testing Machine



Start the Test Pause on Load End of test

Start the Test

Press (START) to start the test. First, the device performs a bit of fast loading up to the boot value. When the boot value is reached, the speed is automatically set to the test speed level and kept constant at this level until the end of the test.


Pause on Load

If you want to stabilize the load at any load level during the test (PAUSE), press the hold button. In this case, the load is fixed at the load value level when the hold button is pressed and the device starts to wait. If this button is pressed again, the load will resume.

Pause on Load

The device automatically terminates the test when the condition specified for the end of the test occurs.

This condition is usually a decrease in the load as a result of the breakage of the test specimen, but sometimes the test can be completed when a certain load or deformation value is reached.

The user can also end the test at any time by pressing the STOP key at any time  (STOP). The unit automatically terminates the test to protect the machine and the sensors when the device detects that the specified loading capacity has been reached.

Automatic Cement Compression Testing Machine

Test Results

The test results are saved as a table in the device memory. To access this table, press the test button on the test screen. In this case, the test results are displayed.

Test Parameters

F [1]

6

Test nr:	0.0
Fmax	0.0
s.	0.0
	0.0
Set Speed	0.0

0.00.00.00.00.00.00.00.0



Test Results

When the test results are displayed in a table, the test result is displayed on each page. Use the up / down arrow keys to scroll through the pages. This allows switching between 500 test results in the device memory.

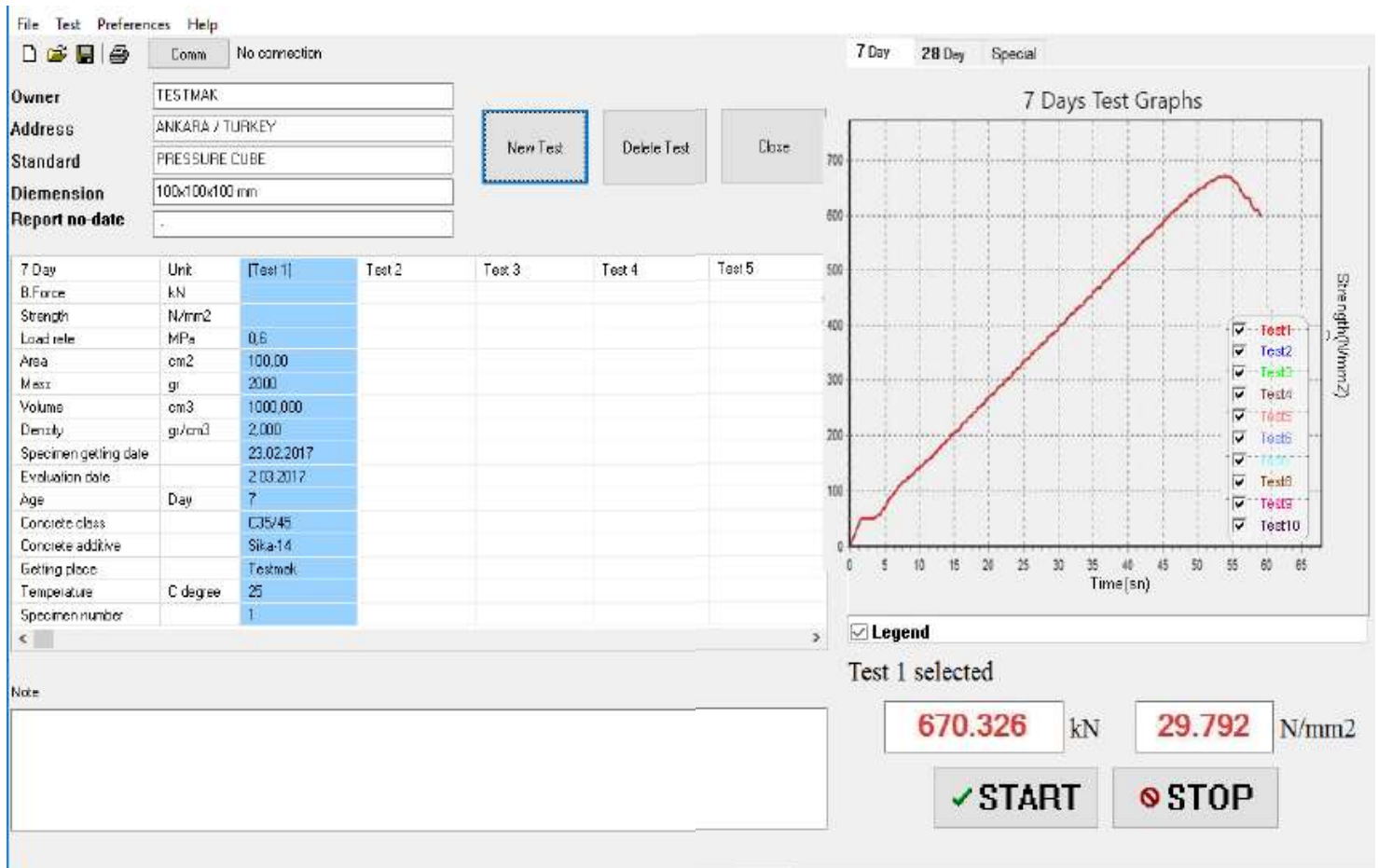
Test Results 1 Search

No	Sample	Fmax	6 (Mpa)	(s.)

Automatic Cement 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 form for entering test parameters. The 'Owner' field is filled with 'TESTMAK'. The 'Address' is 'ANKARA / TURKEY'. The 'Standard' is 'PRESSURE CUBE'. The 'Dimension' is '100x100x100 mm'. The 'Report no-date' is empty. Below the form is a table with columns for '7 Day', 'Unit', and 'Test 1' through 'Test 5'. The '7 Day' column contains various test parameters such as Force, Strength, Load rate, Area, Mass, Volume, Density, Specimen getting date, Evaluation date, Age, Concrete class, Concrete additive, Getting place, Temperature, and Specimen number. The 'Unit' column contains the corresponding units. The 'Test 1' column is highlighted in blue. Below the table is a 'Note' field.

On the right side of the interface, there is a '7 Days Test Graphs' plot. The plot shows Strength (N/mm²) on the Y-axis (ranging from 0 to 700) and Time (sn) on the X-axis (ranging from 0 to 65). A red line represents the test results, showing a steady increase in strength over time, reaching a peak of approximately 670 N/mm² at around 55 seconds. Below the plot is a legend with a checked box for 'Legend' and the text 'Test 1 selected'. Below the legend, there are two numerical values: '670.326 kN' and '29.792 N/mm²'. At the bottom right, there are two buttons: 'START' with a green checkmark and 'STOP' with a red stop sign.

Automatic Cement Compression Testing Machine

SPARE PART

ELECTRIC					
NO	CODE	SPARE PART NAME	BRAND	MODEL	QTY
1	MG260-01	Printed-circuit, 220 volt 3*1.5 electrical plug	HES	3*1.5	1
2	MG260-02	Pg 16 cable gland	ORIG	PG-11 ETANJ	1
3	MG260-03	Inverter	SHIM	SC3-021-0.75K	1
4	MG260-04	1.1 kW B5 Flange 1500 rpm 3 Phase Motor	VOLT	DMD05	1
5	MG260-05	TCM LCD REDACIT PANEL	TESTMAK	TCM050	1
6	MG260-06	Electrical box 330x250x130	OPAK		1
7	MG260-07	Rectangle on-DIT 32 volt Illustrated Signal Button	EMAS	A1461K11	1
8	MG260-08	For 4-Row Terminal Cable Connection	KLENSAN	SR-1	1
9	MG260-09	Power Supply 24 W 5 Amps	AUTONICS	FETLR5100-240W	1
10	MG260-10	Polarimeter	AUTONICS	HR000	1
HYDRAULIC					
NO	CODE	SPARE PART NAME	BRAND	MODEL	QTY
1	MG260-01	Directional Control Valve	Bosch Rexroth	DB4E-01X-630V	1
2	MG260-02	Valve Plate 6CC	Bosch Rexroth	G11ND	1
3	MG260-03	HYDRAULIC PISTON PUMP	Bosch Rexroth	PIR4-110D,40-7WAD100P1	1
4	MG260-04	350 bar Transducer 4.20 mA	FOX	TR43-350	1
5	MG260-05	Tank Cap with Filter	TCAR	TCA2-4000-C65	1
6	MG260-06	Oil Gauge	PLT	PLT11VPR1A1	1
7	MG260-07	1.5 meter oil hose	HİRDAN	H2AT3002	1
8	MG260-08	Allen Head plug 3/8	HİRDAN	ESP3M	1
9	MG260-09	Allen Head plug 1/8	HİRDAN	ESP1M	1
10	MG260-10	Mineral 46 Hydraulic Oil	Hydra Oil	HD 46	1
11	MG260-11	3/8 mm 3/8 12 straight adapter	HİRDAN	ESP03M-12	1
12	MG260-12	3/8 12 reverse elbow	HİRDAN	ESP13M-13	1
13	MG260-13	3/8 12 Portland Union Body	HİRDAN	H03M-12L	1
14	MG260-14	3/8 cm Straight Maley 3/8 12 hose	HİRDAN	H-30	1
15	MG260-15	24 Coupling Cover Plastic	HİRDAN	du-28	1
16	MG260-16	3/8 12 side legs T	HİRDAN	H03H-12T	1
17	MG260-17	Straight Hose Head 3/8 12 m18x1.5	HİRDAN	H03H3H-12	1
18	MG260-18	3/8 Hose Head 3/8 12 m18x1.5	HİRDAN	H03H-12-30	1
19	MG260-19	3/8 BSP 450 bar In-Line check valve	FERRD	ESP4503E	1
20	MG260-20	3/8 Yellow Nipple	HİRDAN	H03M3E	1
21	MG260-21	3/8 Yellow Female Elbow	HİRDAN	H03D03E	1
22	MG260-22	3/8 Yellow Sleeve	HİRDAN	H03M06E	1
23	MG260-23	Machined coupling gear	HİRDAN	DA2H-117	1
24	MG260-24	3/8 12 reverse record	HİRDAN	H03M12L	1
25	MG260-25	3/8 12 hose reducer	HİRDAN	H03M12L	1



TM TEST MAK
MATERIAL TEST EQUIPMENTS

Telephone : +90 312 395 36 42
Fax : +90 312 395 36 01

Website : www.testmak.com
E-Mail : info@testmak.com

Koca Sinan Industrial Sites 1183 Street No:
40 06370 OSTIM / ANKARA / TURKEY