TESTMAK
MATERIAL TEST EQUIPMENTS

Automatic Concrete Pipe Testing Machines

CONCRETE

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Automatic Concrete Pipe Testing Machines

PRODUCT MODEL

C3240	Concrete Pipe Testing Machine 400 kN, 220-240 V 50/60 Hz
C3245	Concrete Pipe Testing Machine 600 kN, 220-240 V 50/60 Hz
C3250	Concrete Pipe Testing Machine 1000 kN, 220-240 V 50/60 Hz

STANDARDS

Standards	EN 1916 | ASTM C301, C497

INFORMATION

Manufacturer	TESTMAK INS.LAB.MAK.SAN.VE TİC. PAZ. ITH. IHR. LTD. STI
Country of Origin	TURKEY
Product Name	Concrete Pipe Testing Machines

Automatic Concrete Pipe Testing Machines

DESCRIPTION

The 400, 600 and 1000 kN capacity frames are rigid 2 column constructions with superior axial and lateral stiffness and are precision aligned. The load-controlled double acting piston is integrated to upper beam. The actuator has anti-rotation system to prevent the natural tendency of the actuator to rotate. The stroke of the double acting actuator is 400 mm. Load cell is used for precise load measurement and closed loop control.

The rectangular shaped top bearer is detachable from the actuator and the bottom bearer is V-shaped with an angle of 150°. During pipe loading the system doesn't permit top bearer to move at horizontal plane and allows it to move at vertical plane of a minimum value of ±8°. Upper crosshead height adjustment is done with electric motor drive for easy and precise test set up and manual through locking pins are used to fix the upper crosshead.

It is produced as a chassis. The chassis has a frame fixing system.

Frames have to be anchored to concrete base. Steel fasteners and anchorage plan are sent to the customer before installation. Steel fasteners have to be anchored to concrete base by customer according to plan. Following this anchorage process, the frame is assembled.

Testable Specimens

• 1000 kN capacity Concrete Pipe Testing Machines are designed for the Peak Load Tests on Sewer and Drain Pipes, Concrete Pipes, Fittings, Cones on from 200 mm up to 3000 mm (outer diameters) pipes. Can be used for concrete pipes with a length up to 2600 mm.

Safety Features

• Maximum pressure valves to avoid machine overloading
• Emergency stop button
• Software controlled maximum load value

Use of the Concrete Pipe Test Machine

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

Thanks to its easy use, it allows operators with little experience to do the tests without any trouble.

To start the test, it is sufficient to place the concrete pipe samples centered on the lower loading plate and to perform the

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following operations after the press is turned on:

• Choosing the sample to be tested.

• Pressing the “Start” button on the control unit.

• The machine starts loading at the set test speed. When the sample is broken, it automatically stops and returns to its initial state.

• Experiment result and test parameters are automatically saved.

LCD DATA ACQUISITION CONTROL SYSTEM

TCM200 Touch Control Unit

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

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

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

TCM200 Touch Software for Automatic Compression / Flexure Testing Machines

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

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.

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Data Acquisition Control

• 3 universal analog input sockets (ADC)
• Each analog input with 18 bit precision (1/256000)
• 1 replacement analog input
• A total of 4 analog high-precision measuring capacities
• 2 analog output sockets (DAC)
• Analog outputs generate a 0-10V DC output signal
• Motor speed control devices, servo valves with this output signal, proportional valves, etc. reference signal is produced.
• PULSE / DIR outputs (PULSE / DIR / ENA) to control the servo and stepper motor drives
• 5 digital outputs for general purpose (can pull relays and control different electrical units)
• 5 digital inputs for general purpose (receives and evaluates input signals like limit contacts from the environment)
• Potentiometer input (reference signal input for calibration and remote control)
• 2 RS232 serial communication signal outputs (communicates with computers)
• It also connects to motor drives via serial communication via MODBUS connection
• USB communication signal output (communicates with computers)
• Connects to local networks and the Internet with Ethernet 10/100 network connection output (optional)
• Connects to portable devices via Bluetooth wireless connection (optional)
• 500 test results can be stored in internal memory
• Due to the SD (memory) card connection, a large number of test results can be stored in the device memory (40,000 test results).
• In addition, the results can be taken from the device memory and transferred to the computer as an Excel table. (Optional)
• Color TFT display supports 16 lar and 7 800 screen sizes, supports 16M colors and supports 800x480 pixel screen resolution
• Resistive touch screen allows easy operation of device functions by touching the screen
• Access to frequently used functions with 6 membrane keypads
• The industrial standard operates with 24V DC supply voltage. Built-in voltage filter and regulator protects against input signal fluctuations
• Sensor modules are compatible with loadcell (load cell), pressure sensor (4-20 / 0-20 mA), potentiometric distance sensors, strain washers, thermocouples and all kinds of mV output sensors.
• Provides precise calibration with multi-point calibration (up to 10 points)
• Setting and calibration menus are password protected and prevent unauthorized use
• Allows testing with a computer or device
• There are many test sample information screens and test methods in the device memory and tests can be performed easily
• Different menu languages can be selected via the device via language support
• Speed control algorithm is closed loop PID control and all parameters can be adjusted on user side.
• The device can switch between one-touch load and deformation control modes

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• The graphical field that visualizes the test results on the screen has the ability to change the scale automatically and automatically adjusts the optimal scale as the values change
• Firmware updates can be made via USB input. In addition, via the computer allows remote or internet update.

TECHNICAL SPECIFICATIONS

Product Code	C3240	C3245	C3250
Capacity	400 kN	600 kN	1000 kN
Piston Stroke	400 mm	400 mm	400 mm
Diameter of tested pipes (max / min)	1000/200 mm	1500/300 mm	3000/200 mm
Maximum length of test tubes	200 cm	200 cm	2600 cm
Max. Working Pressure	410 Bar	410 Bar	410 Bar
Oil Capacity	18 L	18 L	18 L
Power	1100 W	1100 W	750 W
Dimensions	2500x1600x3000 mm	2700x2500x4800 mm	3800x2600x7000 cm
Weight	2500 kg	3750 kg	6800 kg

C3245

C3250

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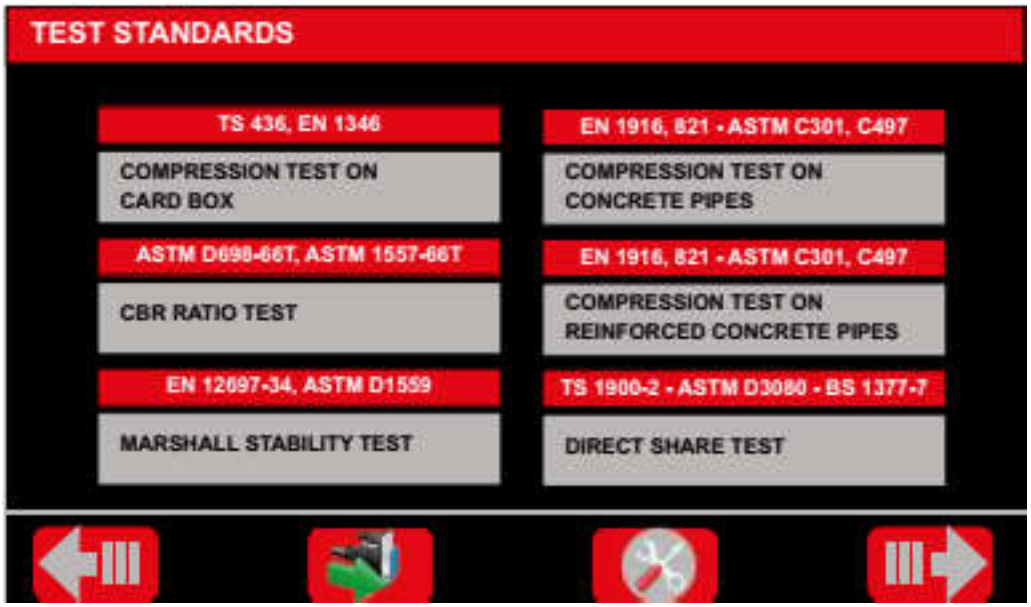
When energized to the device, on the digital indicator display will show the following information.



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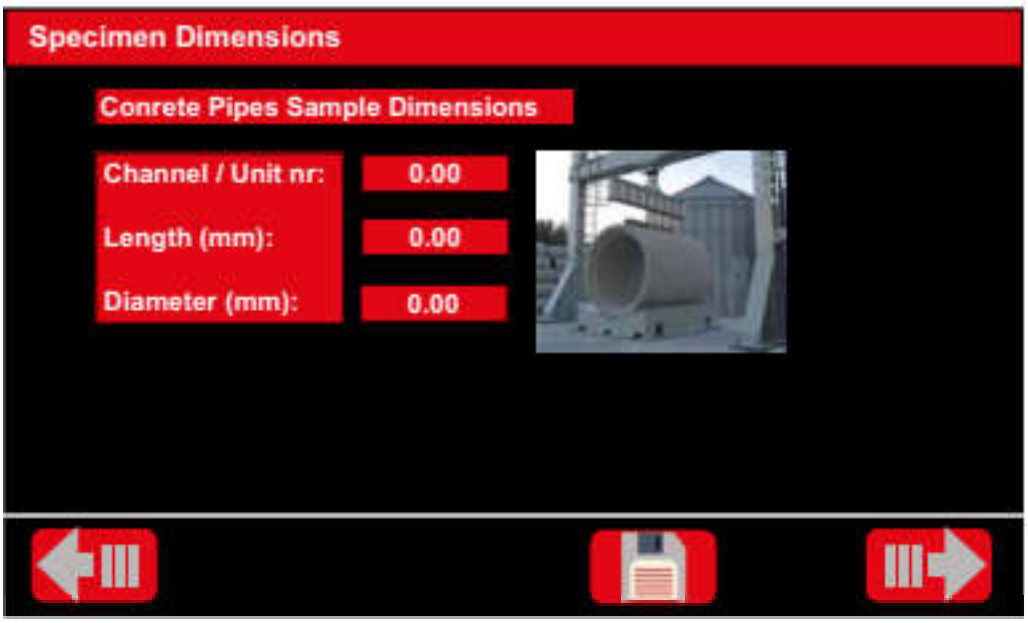
Compression strength of samples in concrete pipes (In accordance with ASTM C497 standard)

When this test method is selected, the sample size screen is displayed first.



The  NEXT button is used to proceed to the next step.
The next step will be to determine the test parameters related to the selected test method.

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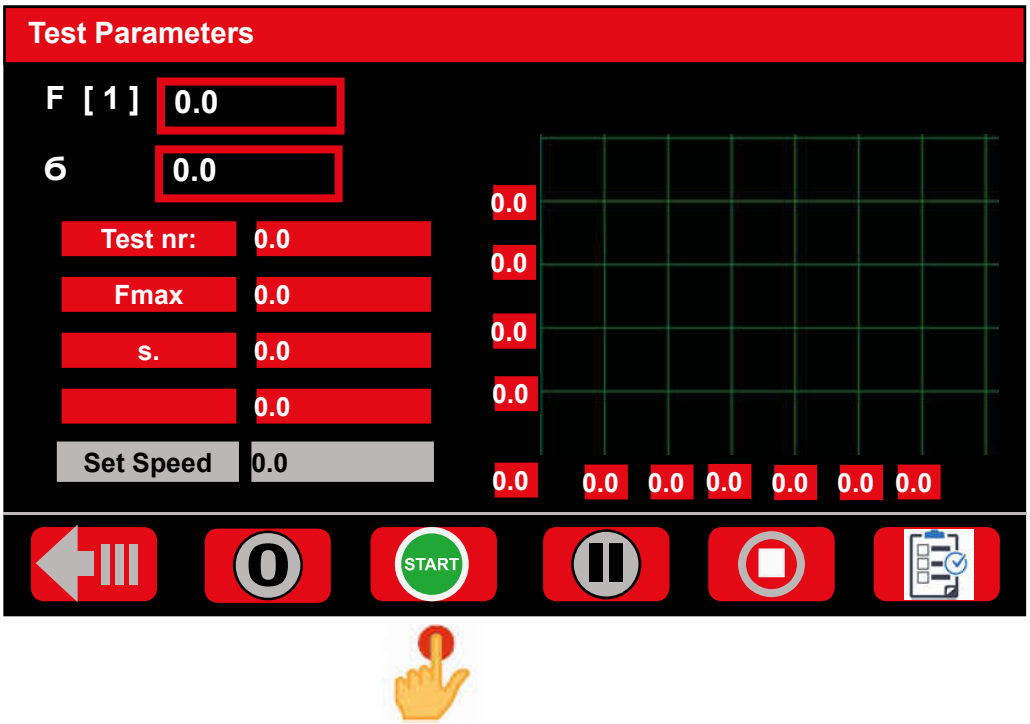

Start the Test

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.

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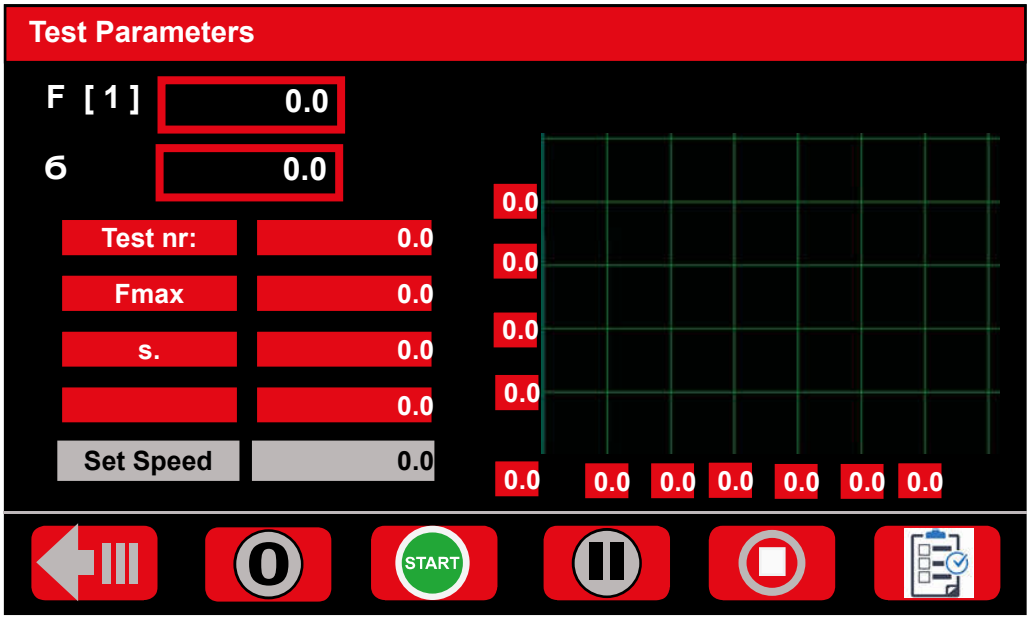
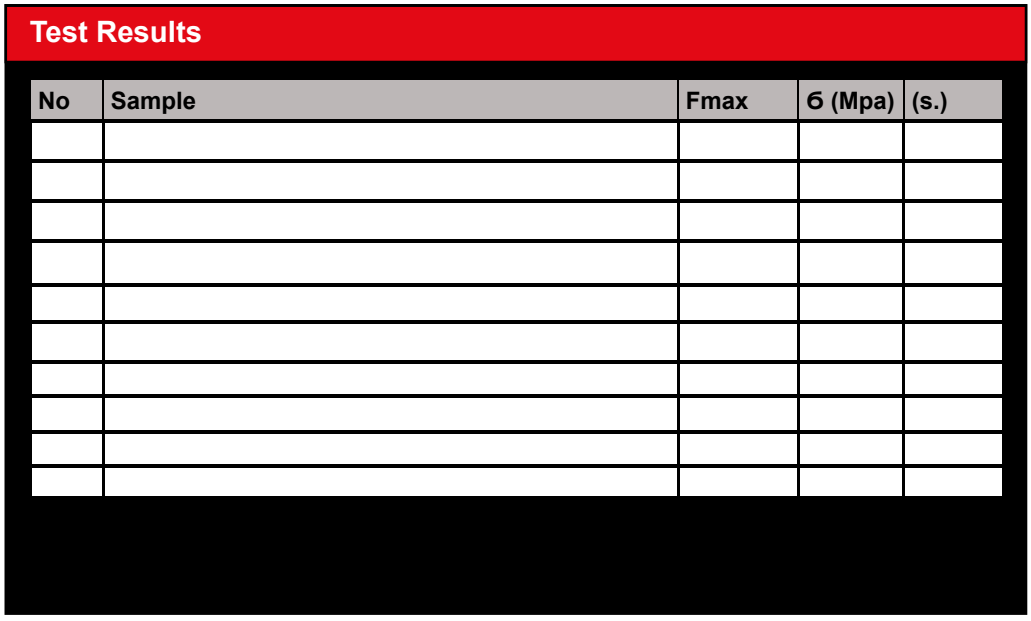
Test Results

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 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.



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Specimen Information :

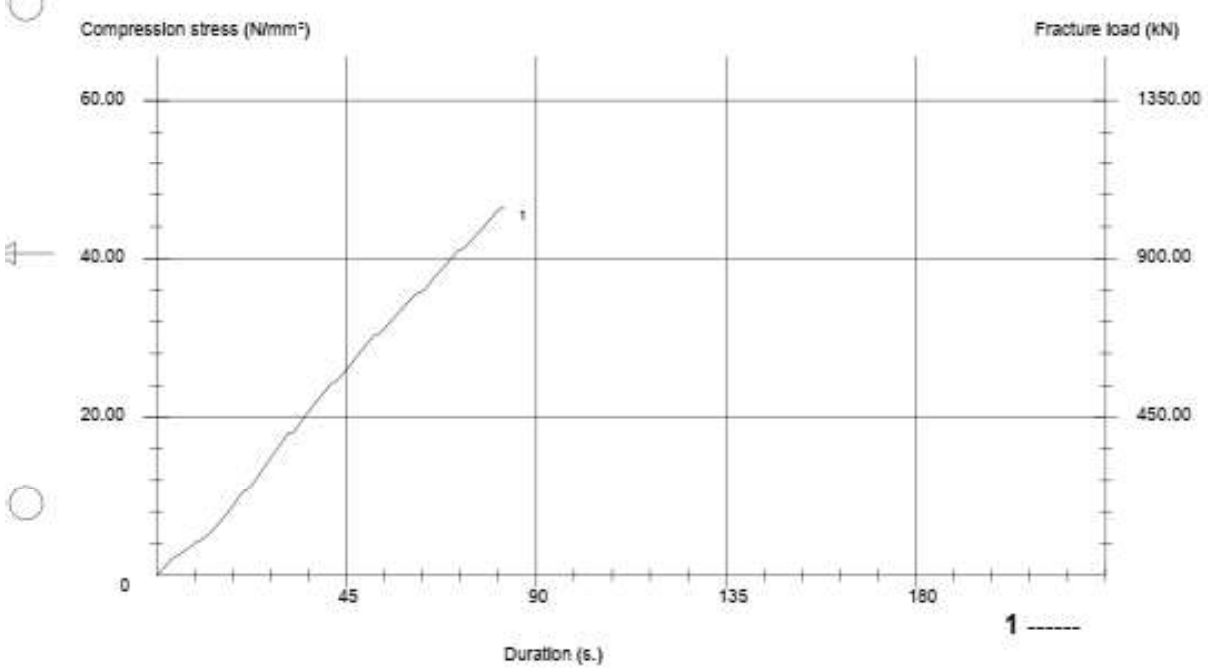
Report Nr :
Report date : 06.10.2022

Constructor:
Address:
Section / Zip :
Admixture:
Test Standard:
Application:

Referance 1 :
Referance 2 :
Concrete:
Ready mix:

Nr.	Area cm²	Volume cm³	Weight gr.	Unit weight kg/dm³	Age days	Sampling date	Testing date	Fracture load kN.	Stress N/mm²	Temperature °C	Transmix. nr
1	225.00	3375.00	0.00	0.00			4.05.2020	1047.24	46.54		

Test graph



Description:

TECHNICAL SPECIFICATIONS

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