

**BESMAK BCO-PS/ST SERIES
HYDRAULIC CONTROL UNIT
WITH SEMATRON TOUCH SERIES
CONTROLLER**



General Specifications of the Control Unit

Load Capacity	0,1 – 5000 KN (Depends on frame features)
Measurement Resolution	Up to 20 Bit (Different resolutions are optional)
LCD Screen	10” Capacitive Touch Screen
OS of The Controller	Linux Based (Highly stable and reliable)
Communication Port	Internal LAN and USB
USB Connection	Available – Internally; <ul style="list-style-type: none"> • Data Transfer (Report, Raw data etc.) • Communication with PC Software • For all external hardware connection.
LAN Connection	Available – Internally; <ul style="list-style-type: none"> • Communication with computer, • Can be set direct internet connection. Results can be sent directly as e-mail without using computer.
Memory	<ul style="list-style-type: none"> • 4 GB internal memory, • 32 GB Expandable memory with SD card
Data Acquisition	1000 data per second (Different sampling speeds can be provided on demand.)
Data and Experiment Operating System	Can save, open and operate method based test parameters.
Reporting Types	<ul style="list-style-type: none"> • By separate charts, • By serial reporting (More than one result in the same graphic)
Number of Channels	5 channels in total (Optional) <ul style="list-style-type: none"> • 2 piece of Analog (Load cell, Strain Gauge, Pressure Transducer etc.) • 3 pieces of Digital (Encoder, LVDT, Linear Transducer etc.)
Control Type of Machine	Closed Double Loop PID
Control Type – Loading Procedure	<ul style="list-style-type: none"> • Automatic and Manual Mod options, • Linearly Increasing Loading, • Holding at Constant Load, • Ramp Loading, • Step Loading,
Fast Preloading	Available (With automatic contact detection.)
Modulus of Elasticity and Poisson Ratio Calculations	Available (Optional)
Calibration Types	<ul style="list-style-type: none"> • Single Point Calibration, • Automatic calibration up to 10 Points (Machine makes automatic loading up to first calibration point and after entering reference value continues to loading for the next point.)
External Device Connectivity	Eligible to Connect Mouse, Keyboard and Printer (A4 Printers and Mini Printers can be connected without using computer.)
Software Update	<ul style="list-style-type: none"> • Automatically from internet , • Automatically with Flash Disc ,
Report Formats	PDF, Excel - CSV
Report Customization	User defined logo and test information,



Figure: Sematron Control Unit

Controller Features:

BESMAK BCO-Series Compression Testing Machines are controlled by Sematron Touch Screen controller unit.

The controller unit (Sematron Touch Controller) has minimum 5 channels. Due to these channels the controller unit allows to attach 2 different frames with single hydraulic power pack.

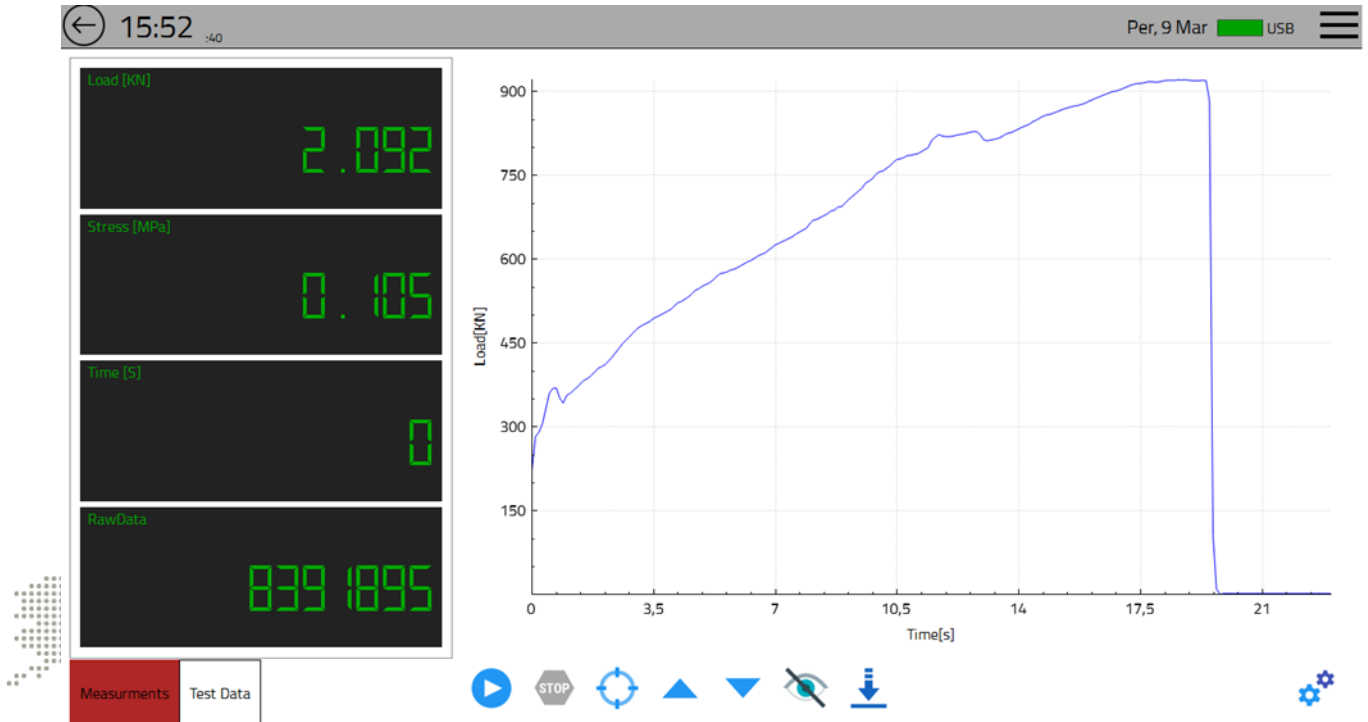
Controller unit can read and control all type of different sensors like LVDT, strain gauge, load cell and pressure transducers with high precision.

User can calibrate each attached sensor and set PID values separately.

Controller unit allows **Automatic Calibration** and adjustment up-to 12 points. Due to special High Accuracy Sematron Touch Controller; (introduced by Besmak),

- User can perform ordinary compression tests with desired pace rate and high precision.
- User can hold the load at any desired point for a specific time
- User can perform **Module of Elasticity** tests according to different standards. (This option need LVDTs to read strain)


Screen Shot of Software




General Features of Data Acquisition and Control System:

- Capacitive touch screen.
- USB port to get results directly from LCD without use of pc.
- Accurate loading with high accuracy.
- User can attach internet modem directly to LCD controller through LAN cable.
- User can email results directly from LCD by using internet.
- User can update test software by using internet.
- LCD has Linux based test software.
- 24/7 Remote help available from turkey.
- Minimum 5 channels. **(Optional)**
- Automatic calibration and adjustment up-to 12 points.
- 1000Hz (1kH) data acquisition speed of each channel.
- Closed loop PID and open loop control option is available.
- Results in pdf and can be converted in Excel.
- LCD controller has 4GB built-in data storage space and supports up-to 32GB.
- All type of printers can be attached directly to LCD without PC. And user can take print out of results.
- LCD controller also supports mini printer. **(Optional)**
- User friendly, easy to customized.
- Communication with PC through LAN cable. Etc.

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 Device Settings


 Machine Setting


 Test Settings


 Electrical Test





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 Measurements

 Dimensions

 Test Procedure

 Test Data

 Break Detection

 ISO Standards

 Charts

Sample Type: Cube

 Dimension

Unit: ft

Length: 50 ft

Width: 50 ft

Height: 50 ft

 Weight

Unit: g

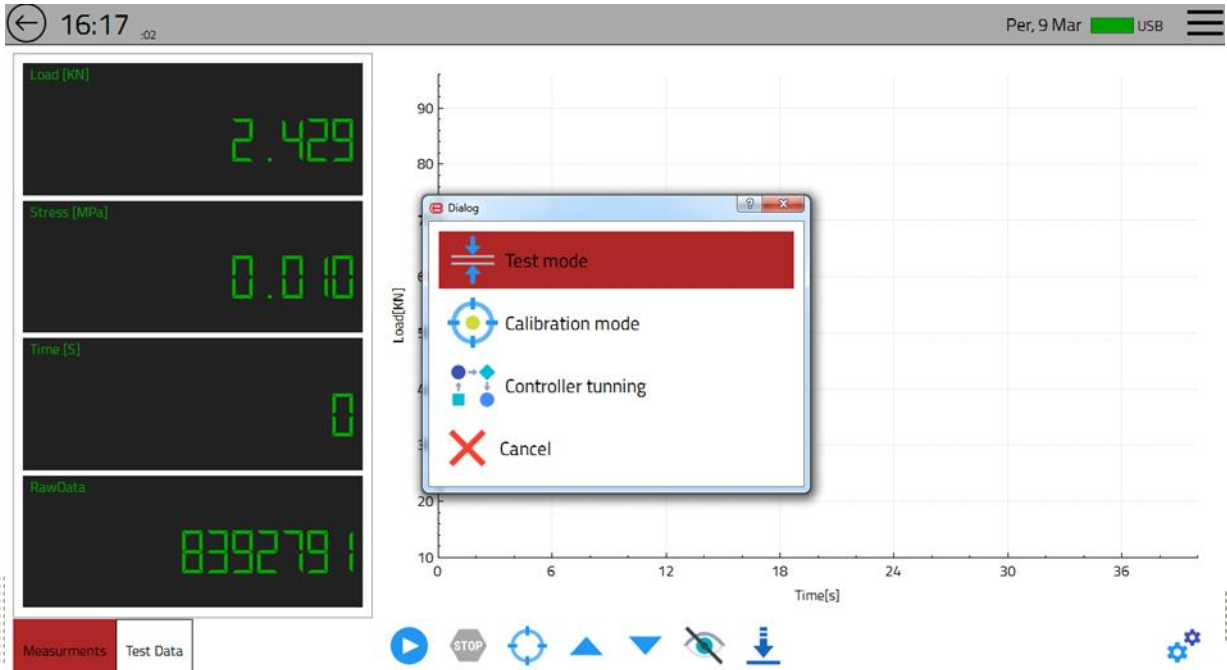
Weight in air: 0 g

Weight in water: 0 g

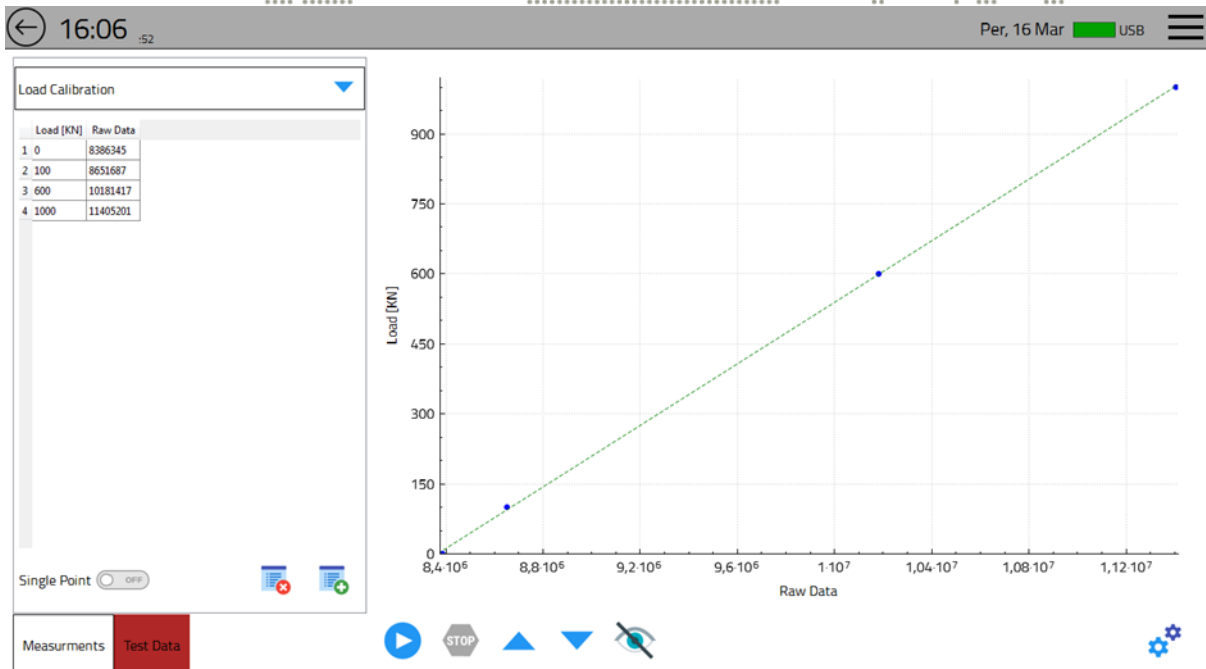
Sample density: 0.000 g/cm³

Save

Mode Selection Menu:



Automatic Calibration Menu:



Setting Menu:

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- LCD
- Security
- Date & Time
- Language
- Contact
- Update
- Connectivity
- Theme
- Change Logo

Colors

Background Color:

Button Press Color:

Font Color:

StatusBar Color:

Number Color: 12345

Reset Colors
Save

Measurements Menu:

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- Measurements
- Dimensions
- Test Procedure
- Test Data
- Break Detection
- Standards
- Charts

	Name	Unit	Precision	Visibility
	Load	KN	1	
	Position 1	m	1	
	Position 2	m	1	
	Position 3	m	1	
	Stress	KPa	1	
	Horizontal Strain	-	1	
	Vertical Strain	-	1	
	E_Modulus	KPa	1	
	Poisson Ratio	-	1	

Save

Modulus of Elasticity: (Optional)



Compressometer and LVDT (Optional)

LVDT is used to measure the deformation on the specimen. 2 LVDTs assembled vertically (Optional) for module of elasticity and 1 LVDT assembled horizontally for Poisson ratio to the compressometer.

Machine calculates; modulus of elasticity, poisson ratio (optional), vertical and horizontal deformation automatically by LVDTs and compressometer.

* Other LVDT options are also available.

Other Test Applications (Optional)

