

BESMAK Full Automatic Servo-Hydraulic Flexural Test Machine (C-Type) - With Touch Screen Controller



Capacity Flexural side:	100, 200, 300 kN (contact us for other capacities)
Frame Type:	Rigid frame in Column construction.
Controller:	Sematron Touch (Touch Screen) 7 Channels Controller with 1kHz Data Acquisition Speed
Load Measuring Range:	1% - 100% of Total Capacity
Speed of Load Control:	0,5 kN/s – 30kN/s
Adjustable Upper Roller:	60 – 160 mm
Adjustable Lower Roller:	100- 500 mm
Piston Stroke :	100 mm
No. of Channels:	7

General Specifications of the Control Unit

Load Capacity	200 KN
Measurement Resolution	Up to 20 Bit (Different resolutions are optional)
LCD Screen	10" Capacitive Touch Screen (Changeable by request)
OS of The Controller	Linux Based (Highly stable and reliable)
Communication Port	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.
Memory	<ul style="list-style-type: none"> • 4 GB internal memory, • 32 GB Expandable memory with SD card
Data Acquisition	1000 data per second
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	7 channels in total (Optional) <ul style="list-style-type: none"> • 4 Analog (Load cell, Strain Gauge, Pressure Transducer etc.) 2 channels are active 2 are optional. • 3 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, • 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	Feasible 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 by using Flash drive ,
Report Formats	PDF, Excel and program raw value format
Report Customization	User defined logo and test information,



Sematron Control Unit

Controller Features:

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

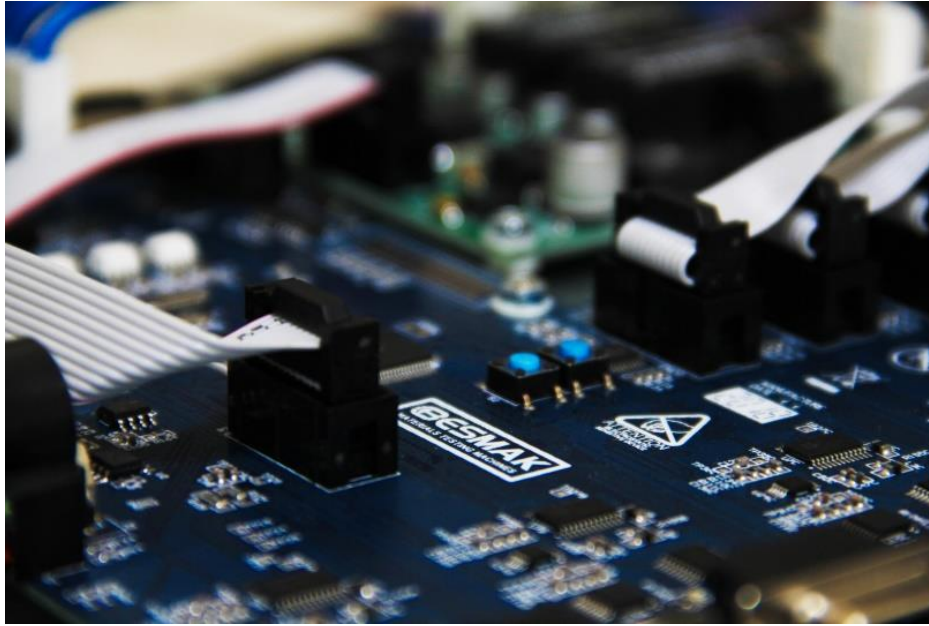
The controller unit (Sematron Touch Controller) has 7 channels **Optional**. Due to these channels the controller unit allows to attach different frames with single hydraulic power pack.

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;

- 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



General Features of Data Acquisition and Control System:

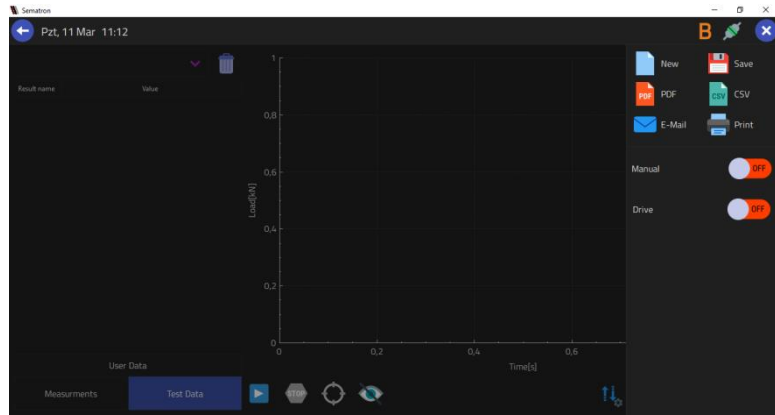
- Capacitive touch screen.
- USB port to get results directly from LCD without use of pc.
- Accurate loading with high accuracy.
- User can attach internet modem directly to LCD controller
- User can email results directly from LCD by using internet.
- User can update test software by using USB drive.
- LCD has Linux based test software.
- Minimum 7 channels. **(Optional)**
- Automatic calibration and adjustment.
- 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 USB.

Tests can be carried out on computer by Besmak Universal Testing Software. Real time data, test graphs and results can be observed on software. Results and graphs can be saved on computer and printed. User can personalize the software and report format according to company/corporation etc. Besmak Universal Testing Software is compatible with Windows7 and higher operating systems. Universal Testing Software provides solutions to all type of test applications.



Key Features of Software:

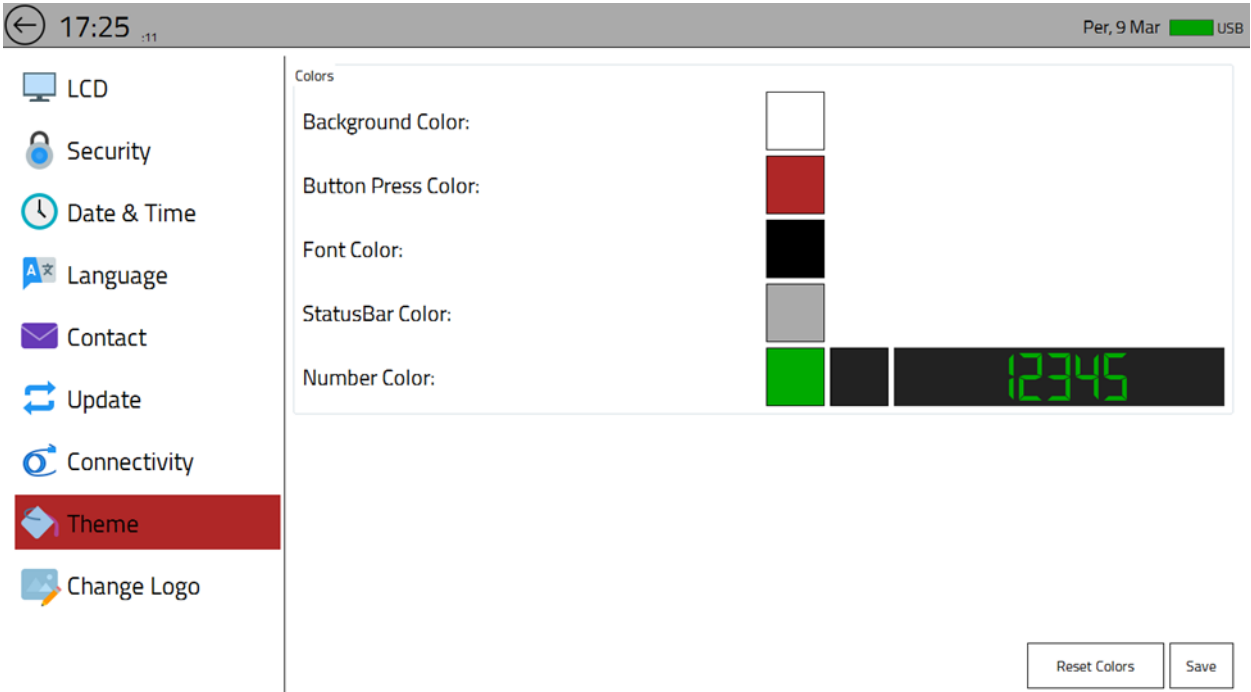
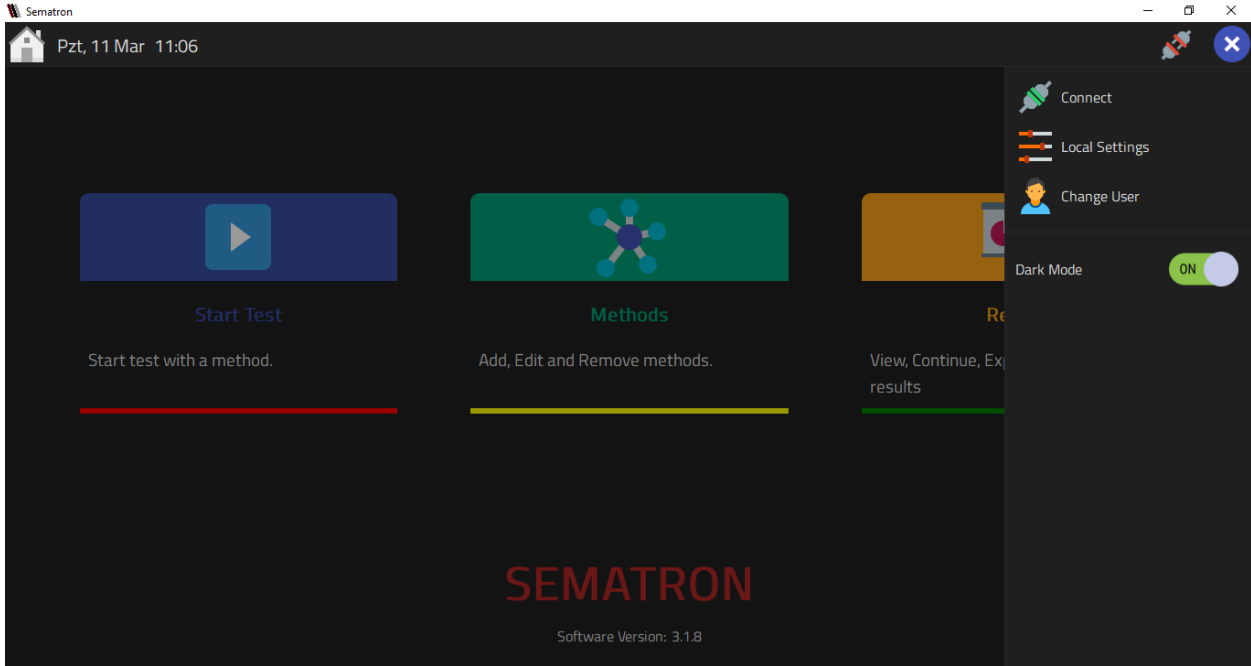
- User Friendly, easy to use interface
- Easy-to-understand icons and workflows make it easy to train new or experienced users, simplifying operator training, and allowing you to start testing even faster
- Meticulously crafted visual design, gives the most comprehensive view of the test workspace
- User can make and save test templates with specific name / test standard etc.
- Automatic Save option for test report and/or raw values
- User defined graph axis to get real time vales of desired sensor
- User defined report setup and results definition
- High speed data display with 1 kHz data acquisition speed
- Automatic sensor and setup identification
- Series test option to combine test graphs and results of multiple samples
- Real time graphic analyzing feature to see graph data point to point
- User can perform bending and special test easily
- Test settings, test templates, loading sequences and device settings can be easily done by the software
- Besmak Universal Testing software supports multi languages which make it attractive for international users
- We provide online support to our customers.
- Over load detection and sample protection features for advance testing applications to protect sensitive samples
- Auto tare option for each connected sensor
- Auto positioning and return after test feature for actuator
- Software supports All SI and Matric units for sensors and measurements
- PC connection with USB cable



	Name	Unit	Precision	Visibility
<input checked="" type="checkbox"/>	Load	kN	2	<input checked="" type="checkbox"/>
<input type="checkbox"/>	V_Position 1	mm	0	<input type="checkbox"/>
<input type="checkbox"/>	V_Position 2	mm	0	<input type="checkbox"/>
<input type="checkbox"/>	H_Position 3	mm	0	<input type="checkbox"/>
<input type="checkbox"/>	Sensor_4	N	0	<input type="checkbox"/>
<input type="checkbox"/>	Sensor_5	N	0	<input type="checkbox"/>
<input type="checkbox"/>	Sensor_6	N	0	<input type="checkbox"/>

Use Averaging for Vertical Strain:

Test Type: Tensile



SematronConfig

File View Help

Setup Controller Adjustment Calibration Test Center

Pos EXT Openloop POT GPO Bypass

Sensor: Sensor 0
Mode: Automatic
Control: Sensor 1

Start Calibrated On: Not Calibrated

	Speed [N/s]	Destination [N]
P1	0,000000	0,000000
P2	0,000000	0,000000
P3	0,000000	0,000000
P4	0,000000	0,000000
P5	0,000000	0,000000
P6	0,000000	0,000000
P7	0,000000	0,000000
P8	0,000000	0,000000
P9	0,000000	0,000000
P10	0,000000	0,000000
P11	0,000000	0,000000
P12	0,000000	0,000000

Measured value [N] Reference [N]

DELETE Selected WRITE READ

ONLINE A Openloop

↑ STOP ↓

ON OFF

Sensor_0 -266364 N

Sensor_1 288460 mm

Command 00000

Feedback 00000

Output 00000 %

Time 0:08:16

SematronConfig

File View Help

Setup Controller Adjustment Calibration Test Center

Write Read Export Import Initialize Date, Time

- Machine A
 - General settings
 - Sensors
 - Motor output
 - DIO config
 - RC config
- Machine B
- Machine C
- Machine D

Data Rate: 0,001000 s

Maximum Load: 40000,000000 N

Crosshead Direction: Up

Description: Max 31 characters

Machine Type: Hydraulic

Crosshead Encoder Ratio: 10,000000 Rev/mm

Minimum load enable

Minimum load Control: 0,000000 N

Initial Output: 6,1104 %

Final Output: 0,0000 %

ONLINE A Openloop

↑ STOP ↓

ON OFF

Sensor_0 -273808 N

Sensor_1 288417 mm

Command 00000

Feedback 00000

Output 00000 %

Time 0:00:25