

**C125N**
**DETERMINATION OF THE SECANT COMPRESSION ELASTIC MODULUS ON CONCRETE**

AUTOMATIC WITH PACE RATE CONTROL ALSO WHEN RELEASING THE LOAD

STANDARDS: EN 12390-13, EN 13412, EN 13286-43 | ASTM C469 | ISO 6784 | UNI 6556 | DIN 1048 | BS 1888:121



It can be used with a MATEST high stability frame 2000 or 3000 or 5000 kN capacity, coupled to the automatic servo-controlled system "Servo-Plus Evolution" (mod. C104N) housed in a separate pyramidal frame.

The appliance includes:

**■ HYDRAULIC SYSTEM**

It is an hydraulic installation and has a high performance valve directly controlled by the digital unit that grants the automatic control of the pace rate increasing the load, keeps a certain load and then controls the pace rate decreasing the load.

The setting of the pace rate is made by a very sensitive valve controlled by a stepper motor thus allowing a micrometric action on the pace rate granting excellent results.

A laser position detector allows a rapid positioning of the piston. This grants a touching sensitivity of test starting at about 0.1 per thousand of the maximum capacity.

**■ ELECTRONIC MEASURING SYSTEM**

The high performance control and data processing unit controlled by a 32 bit microprocessor, can manage up to 8 high resolution channels for the control of load cells or transducers with strain gages bridge.

The unit contains two Analogical/Digital last generation converters with 24 bits resolution. The system processes the signals coming from the load cells and from the extensometers giving all the results required for further processing following the most updated International Standards for this application.

**■ DATA ACQUISITION AND PROCESSING UTM2 SOFTWARE LICENSE FOR ELASTIC MODULUS ON CONCRETE**

The software has been developed on the working line of the already known software UTM-2 (Windows menu). It contains the profiles of the main Standards used, but the user can modify as he likes and personalize the test profile that will be carried out in a completely automatic way by the testing machine.

The software allows to determine both the initial and stabilized **secant modulus of elasticity** as requested by **EN 12390-13** Standard. The software gives the possibility to print on a standard printer a test certificate reporting all the data concerning the test and the specimen and the graph of the test. The software includes the license "Servonet" mod. C123N, while the extensometers (two models are proposed: **A** and **B**) are not included in the standard supply and must be ordered separately (see accessories).

## ACCESSORY

### C125-01N

SOFTWARE FOR ELASTIC MODULUS TESTS ON ROCKS  
STANDARDS: ASTM D3148, D5407, D2664,  
EN 14580, EN 1926 | ISRM

**Note:** The Elastic Modulus on Concrete mod. C125N can be used together with:

A) EXTENSOMETERS (STRAIN GAGES), SINGLE USE, ELECTRIC, available in different sizes, mod. C125-10 to C125-13 (see accessories).

or:

B) EXTENSOMETERS /COMPRESSOMETERS, electronic, universal, mechanical frame, mod. C134 (see accessories)

AS AN ALTERNATIVE:

### B) C134

EXTENSOMETER / COMPRESSOMETER, ELECTRONIC, UNIVERSAL, MECHANICAL FRAME. It can be used only with samples having minimum height of 130 mm. Technical details: see p. 286



**C134**

### C134-10

TEMPLATE, to regulate and calibrate the base length of the C134 extensometer.

## ACCESSORIES

A) EXTENSOMETERS (STRAIN GAGES), SINGLE USE, ELECTRIC  
Pack of 10 pieces

Available models:

**C125-10** Electric extensometer, base length 10 mm

**C125-11** Electric extensometer, base length 20 mm

**C125-12** Electric extensometer, base length 30 mm

**C125-13** Electric extensometer, base length 60 mm

**C125-14** Electric extensometer, base length 120 mm

### C125-15

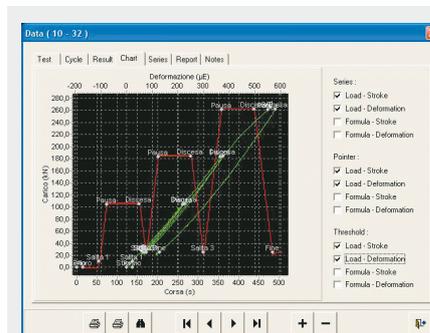
KIT for the application of single use extensometers composed by: glue, welder, solder, cleaning liquid, accessories, the whole in carrying case.

### C125-09

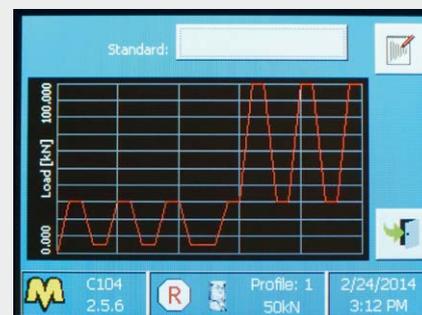
INTERFACE MODULE, a **needed accessory** to connect up to 4 electric single use extensometers. This module allows also the automatic calibration of the zero and of the measuring range after a special thermal compensation. This grants a five times better accuracy than the one requested by the Standards.



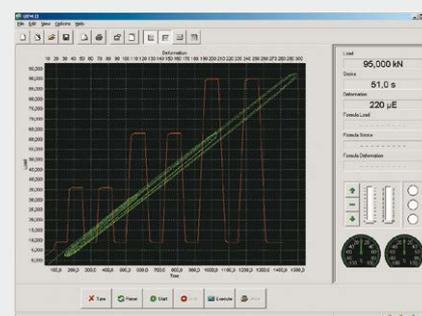
**C125-09**



Screen during a test and marker indicating any change.



Test graph to EN 12390-13



Test with longitudinal and transversal deformations

Test	Result	Cycle	Series	Chart	Report	Notes
#	µE					
1	1	Base deformation 1:	e01	38,633	µE	
1	2	Base deformation 2:	e02	45,9	µE	
1	3	Base deformation 3:	e03	51,267	µE	
1	4	Advanced deformation 1:	e1	152,633	µE	
1	5	Advanced deformation 2:	e2	278,787	µE	
1	6	Advanced deformation 3:	e3	392,467	µE	
1	7	Base strength 1:	o01	1,142	N/mm²	
1	8	Base strength 2:	o02	1,136	N/mm²	
1	9	Base strength 3:	o03	1,162	N/mm²	
1	10	Advanced strength 1:	o1	4,576	N/mm²	
1	11	Advanced strength 2:	o2	6,075	N/mm²	
1	12	Advanced strength 3:	o3	11,466	N/mm²	
1	13	Compression module 1:	E1	29901,164	(N/mm²)/E	
1	14	Compression module 2:	E2	29827,405	(N/mm²)/E	
1	15	Compression module 3:	E3	30205,376	(N/mm²)/E	

Test data