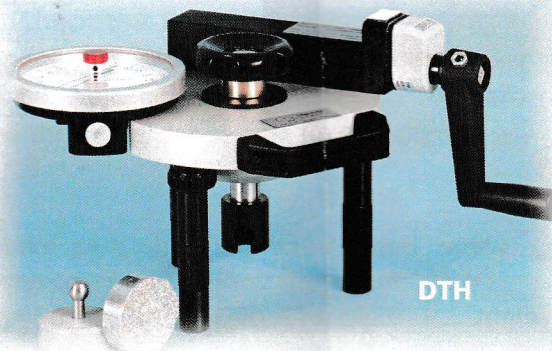


USER GUIDE

Traction dynamometer



DTEpico



DTH

We thank you for the trust which you granted us by choosing a product of the range DYNATEST.

Before the starting of your new equipment, we recommend you to read attentively the following information for the good use and the maintenance of this device.

1) PRINCIPLE

The dynamometer is a device of control allowing to measure the strength of adhesion and cohesion of materials.

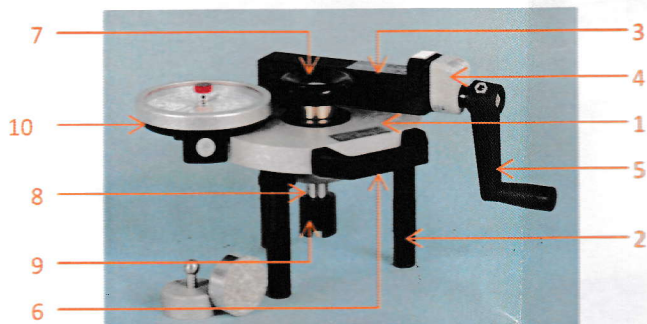
Thanks to the hydraulic transmission of the axial movement, the strength is applied with a constant increase.

2) PRESENTATION

Constituents of the equipment:

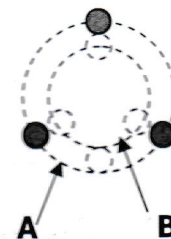
- The dynamometer
- A ball headed-screw
- A case of transport

Dynamometer presentation :



1. Plate
2. Leg
3. Part of jack
4. Revolution counter
5. Crank
6. Handle
7. Wheel for setting up
8. Traction screw
9. Ball-headed screw holder
10. Manometer (analog or digital, according to the model)

Strenght of device	Weight	Diam. of fegs	A	B
1 à 16 kN	~3,600 kg	Ø 20 mm	Ø 150 mm	
25 kN	~6,100 kg	Ø 30 mm	Ø 180 mm	Ø 114 mm
50 kN	~7,100 kg	Ø 30 mm	Ø 180 mm	Ø 120 mm
100 kN	~9,500 kg	Ø 30 mm	Ø 180 mm	Ø 120 mm

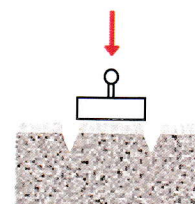
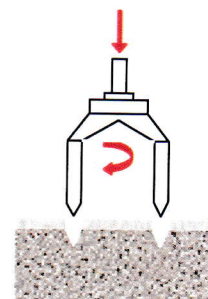


3) PROCESS OF USE

3.1 Preparation of the test area

Using a drill bit or a similar instrument, cut a **circular or square**, depending on the type of disc, up to the base material.

To define exactly the measurement surface.



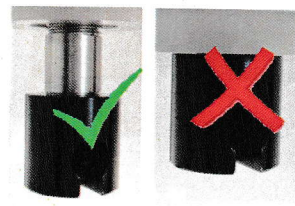
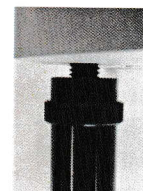
Stick on the surface to test a pastille of corresponding **size**. For that purpose, we can use an epoxy quick-setting glue.

Tighten the ball-headed screw the disc

3.2 Preparation of the dynamometer

Before a series of measures, it is recommended to make **sure** that the validity of the calibration of the dynamometer is in accordance. Otherwise, a control and a calibration of the dynamometer must be made. Please contact us to provide this intervention.

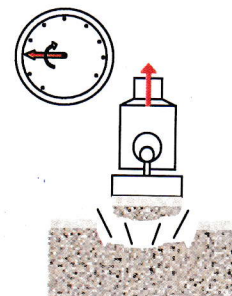
Place the device on the sample has to test, to put on the ball-headed of the disc with the ball-headed screw holder. Check the flatness of the test area, if necessary, proceed to a regulation by undoing legs to allow the traction screw to draw **perpendicular** to the test surface. Adjust the manometer on the zero (see note manometer pages 12-15). Screw the wheel for setting up to generate a light pressure.



During your measurements, take care that the ball-headed screw holder doesn't come into obstinate under the plate, that would distort your results and would damage your dynamometer.

3.3 Test

Maintain the dynamometer and begin to turn regularly the crank to increase gradually the traction exercised on the disc of test until the break of materials. Caution, at the time of the failure, the dynamometer can have a backward step which it is necessary to contain.



Read and note the value indicated by the dynamometer.

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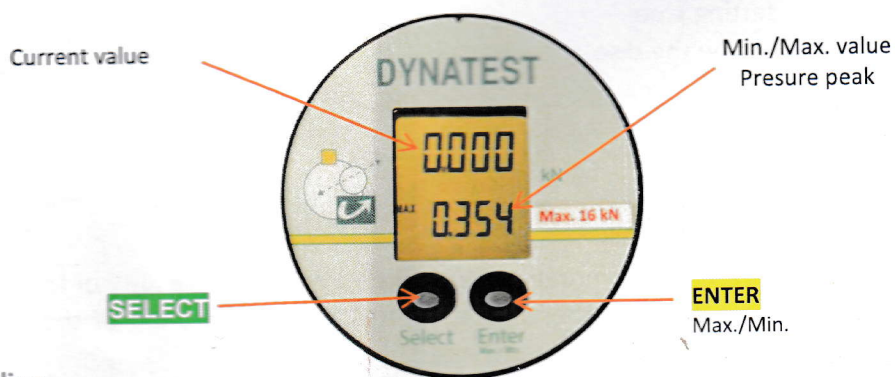
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After each tests, to put back the crank in zero position on the revolution counter.
To obtain a reliable calculation of the results of the strength of adhesion of the tested surface, several tests must be realized (refer to the standard in force of your material)

3.4 Expression of the results

The values of the adhesion noted during the tests are expressed in kN.
They can be transformed into Mpa, following the surface of used discs (a conversion table is available on simple request).

4) INSTRUCTION FOR USE OF THE DIGITAL MANOMETER



Quick handling :

Started

SELECT

Disappearance of maxi memorized

SELECT → ENTER

Put back to initial zero

SELECT → SELECT → SELECT → ENTER → SELECT → ENTER

Stop

SELECT → SELECT → ENTER

The functioning of the manometer controls itself by two keys only "SELECT " and "ENTER".

- The "SELECT" key is used to select the functions and the unit of measurement
- The "ENTER" key is designed to validate the function or the unit of measurement selected. Also, It's used switch the instrument form the Min. to the Max. value and conversely. The can be done either in the "MANO" or in the "PEAK" mode.

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Starting up :

- The instrument start up when pressing the "SELECT" key.
- The displays successively :
 - the program version (year/week),
 - the calibrated scope of measurements,
 - the current value (top),
 - the last Max value measured (bottom).

The instrument has he the below functions :

- RESET : The current value of the measurement is recorded as MIN/MAX values and PEAK value
- OFF : Stop the display
- MANO : Allows you to access the below functions :
- PEAK off/on : Measuring mode with 2 measurements.s⁻¹ / 5000 measurements.s⁻¹
- ZERO SET : Record a new reference of zero
- ZERO rES : Restore the zero adjust in factory
- CONT on/off : Disables or enables the automatic stop function of the display

In mode CONT off the instrument stops automatically at the end of 15 min after the last action on a key

Example : Recording a new zero

- Start the instrument by pressing quickly the SELECT key,
- Wait until the instrument gets in the measuring mode (3 seconds approx.),
- Press 3 times the SELECT key : **MANO** is displayed,
- Press on ENTER : **PEAK on** or **PEAK off** is displayed,
- Press on SELECT : **ZERO set** is displayed,
- Press ENTER : the new zero is recorded.

The instrument is in the measuring mode again.

Display of the Min. value :

If the instrument is in the measuring mode (display : current pressure and Max. value), by pressing on the ENTER key you will display the Min. value for 5 seconds.

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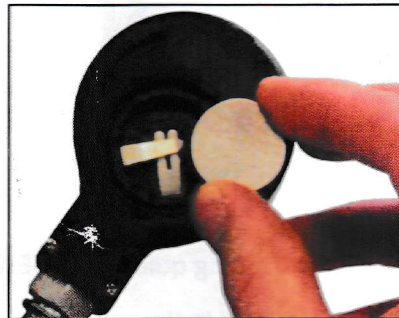
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Notes :

- 1) Functions and units may also be select by holding the **SELECT** key depressed and enabled by releasing the key,
- 2) If the function or the unit select isn't to the measuring mode without any modification to the settings,
- 3) The startup and stop of the display don't modify any setting previously validated,
- 4) When activated the **PEAK on** or **CONT on** function are indicated by a blinking on the screen
- 5) If a value cannot be displayed, the **OFL** (overflow) or **UFL** (underflow) message is displayed on the screen,
- 6) If a value is applied outside the instrument's scope measurement, the last pressure value is displayed blinking.

Replacement of the battery / battery lifetime :

The low battery indication is signalled by the battery symbol at the upper left corner of the screen. To replace the battery: turn the instrument cover until it stops and remove the cover. Open the battery compartment and replace the battery (type CR 2430). The battery's lifetime is of 180 hours approximately in the PEAK mode and 1400 hours in the normal mode.

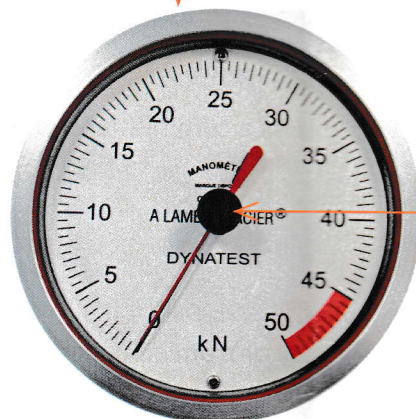


Error messages to the screen :

Message	Possible cause	Solution
Bat low	- Low battery	- Change the battery
ADJ	- Too low battery = disappearance of the programm - Choc on indicator	- Reprogram in manufacture - Reprogram in manufacture
Err	- Overtaking of the acceptable load = damaged sensor - White grip badly connected in the manometer	- Change the manometer - or repair in manufacture (under reserve) - Re-connect the grip

5) INSTRUCTIONS FOR USE POINTERS MANOMETER

A - Button of adjustment
of black needle



B - Button for reset the red
needle of maxi on zero

The adjustment of the manometer is made with the knurled buttons A and B.

The button knurled A situated at the top of the manometer allows the adjustment of the black needle.

The button knurled B in the center of the manometer allows the reset for zero of the red needle.

As indicated in the paragraph 3.2, the adjustment of the zero before the test is made with the button A. Position the red needle on a zero graduation and place the black needle behind in the contact.

During the test, under the influence of the pressure, the black needle rises in load, so pulling the red needle.

In the break of the material, the pressure falls again, the black needle returns to zero, the red needle marks the result of your test.

6) CLEANING / MAINTENANCE

Clean regularly the dynamometer to guarantee its functioning.

Never immerse the device in the water.

Never use aggressive products (solvent).

During the transport, screw the legs of the dynamometer, return the crank and use the case of transport planned for that purpose.

The maintenance or the repair must be made by qualified personnel given that inadequate repairs can represent a risk for the user.

We undertake you to check periodically the state of your dynamometer and to make proceed to its calibration.

Contact our after-sales service before all dismantling of the device.



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