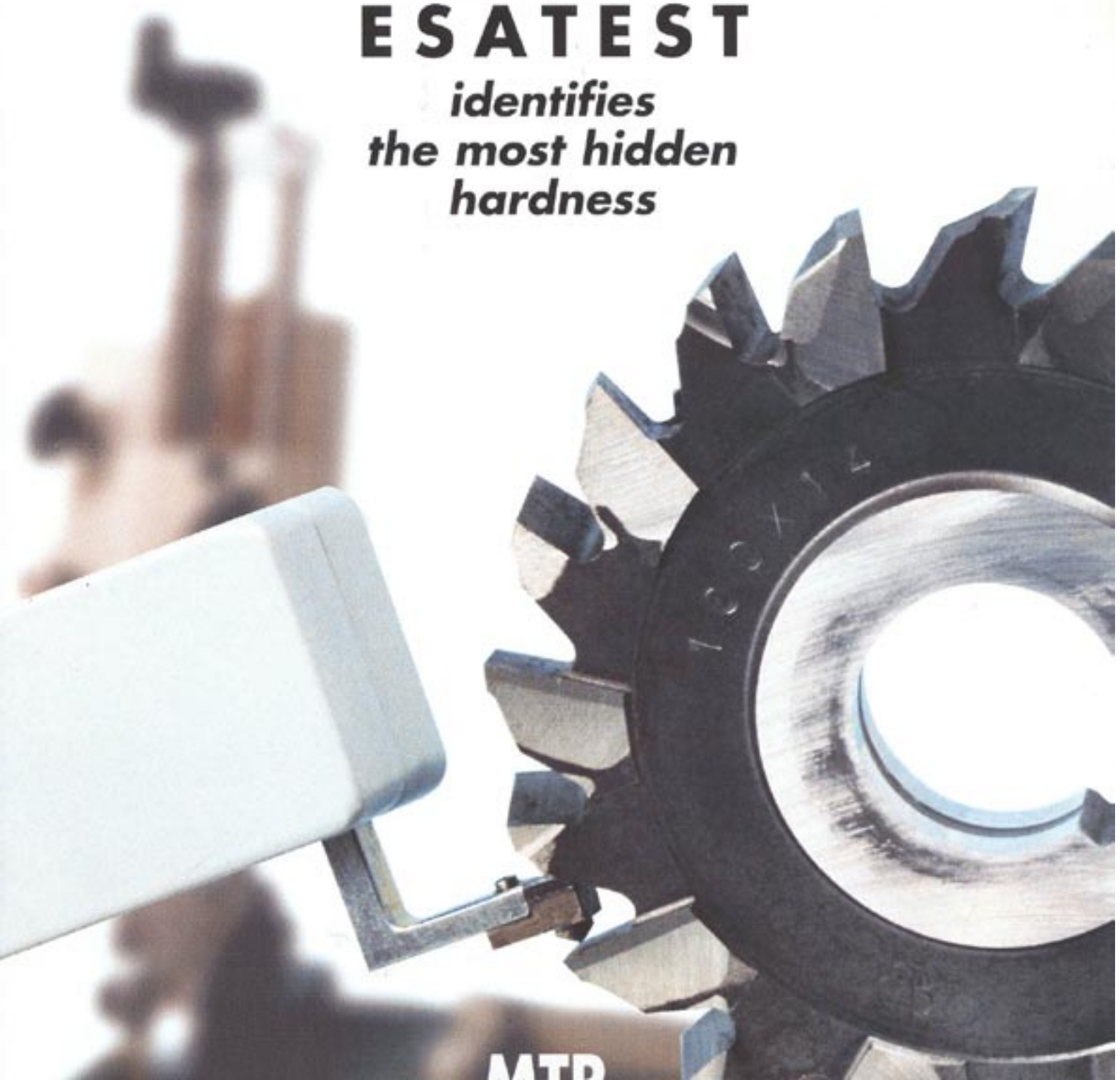
ernst

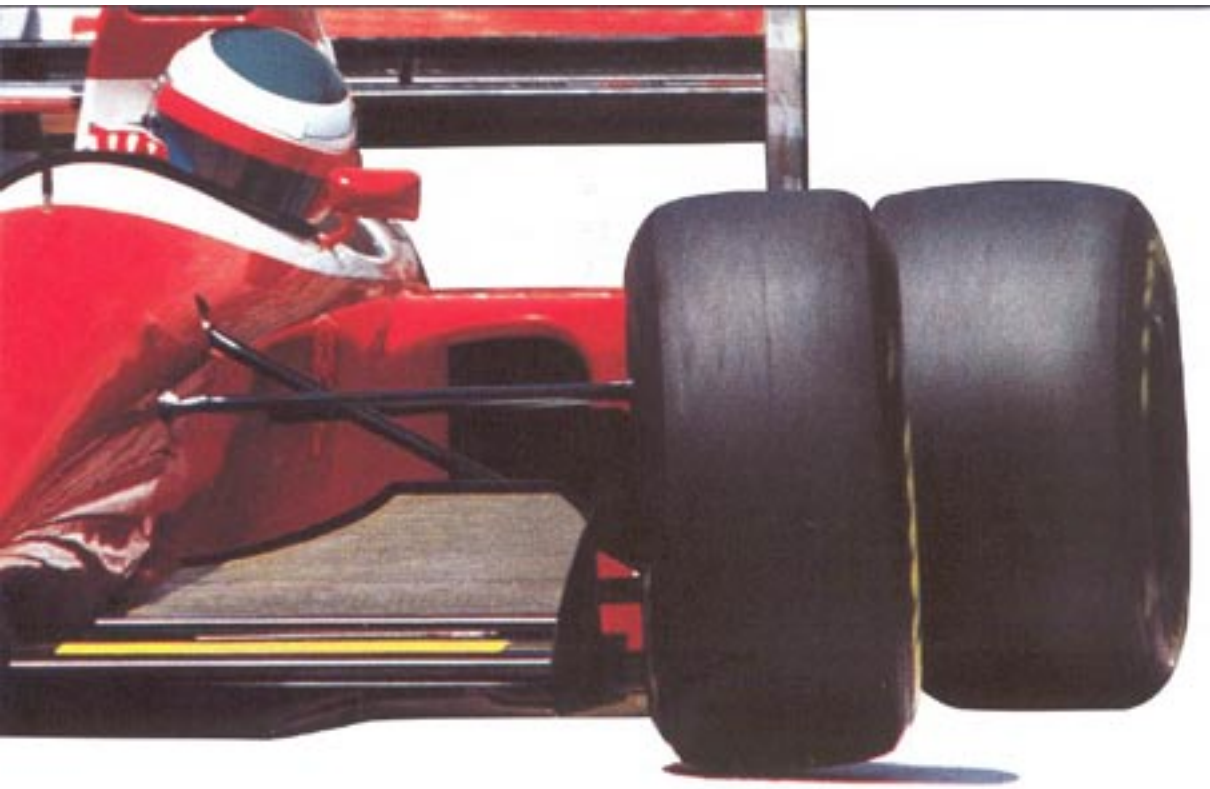
hardness tester

ESATEST

identifies the most hidden hardness



MTR



MOTORIZED HARDNESS TESTER **ESATEST MTR**

Small and large specimens • irregular shapes • interiors • gear evolvents • applicable in different positionings

- *Motorized progressive load application.*
- *With only one measuring the different hardnesses can be visualized conforming with the whole range of loads from 1 to 10kp (9.81-98.1N); 0.5 kp (4.9 N) and 0.2 kp (1.96 N) on request.*
- *No clamping devices for the specimen are needed.*
- *Insensible to deflection and vibration.*
- *Electronics with large memory capacity.*
- *Forefront software, multilingual and multifunctions.*
- *Direct reading on graphic LCD display 107 x 57 mm.*
- *Printing of certificate in 5 languages.*

PAT. ernst

Motorized hardness tester **ESATEST MTR**

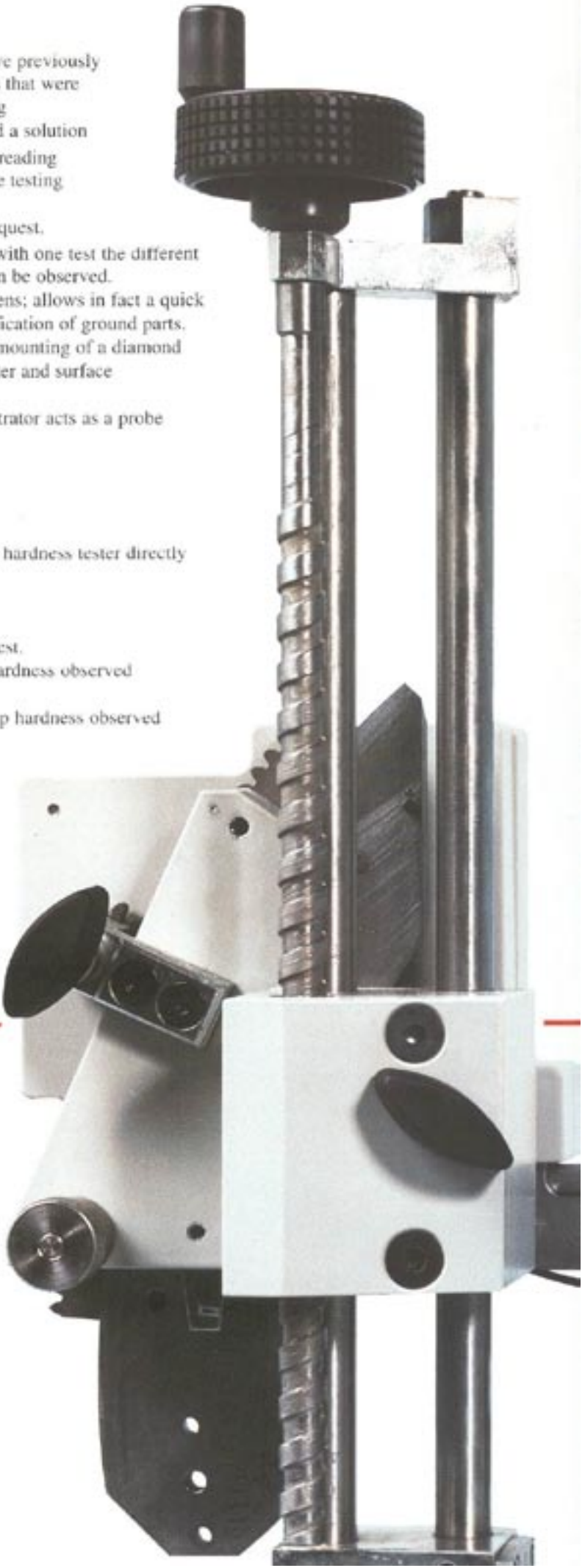
The new hardness tester **ESATEST** has been designed in order to solve previously unresolved problems in hardness testing. Particularly testing in places that were inaccessible until now. Thanks to a new system of impression reading (patent registered in the principal countries) we have been able to find a solution which allowed us to reach this target. With **ESATEST** neither optical reading of the impression nor measuring of penetration depth is needed, hence testing in all positions with minimum difficulty and without special stability.
Reading on the display in Vickers and Rockwell C, other scales on request.
Thanks to the fact that with **ESATEST** load is applied progressively, with one test the different hardness values conforming with the whole range of applied loads can be observed.
This solution is very useful for testing of superficially treated specimens; allows in fact a quick evaluation of the depth of the superficial treatment and possible rectification of ground parts.
The new system is based on measuring electrical resistance between mounting of a diamond indenter, electrically conducting, and the contact limit between indenter and surface of the specimen during penetration (see working scheme).
This resistance lowers with increasing penetration, therefore the penetrator acts as a probe for the determination of the dimension of the impression.
Its use is limited to metal materials only.

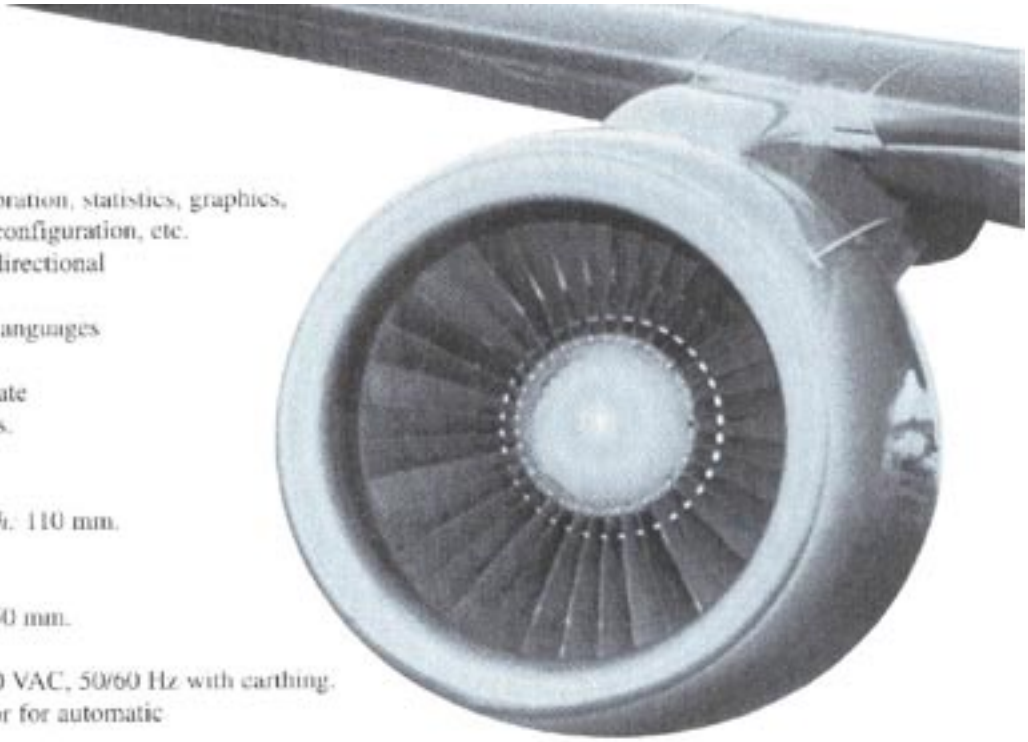
Technical characteristics:

* Type: **ESATEST**, motorized hardness tester. Possibility to apply the hardness tester directly on structures built for special requirements.
* Working principle: Patent ERNST, measuring of electric resistance.
* Reading: Digital, on graphic LCD display 107 x 57 mm.
* Incorporated scales: HV 100-1000, HRC 0-70, other scales on request.
* Test loads Esatest MTR: progressive application from 1 to 10 kp, hardness observed at intervals of 0.5 kp.
* Test loads Esatest MTR/B: progressive application from 0.5 to 10 kp hardness observed at intervals of 0.5 kp.
* Test loads Esatest MTR/C: progressive application from 0.2 to 1 kp, hardness observed at intervals of 0.1 kp.
* Load application: by means of motor, progressively, possibility to set the maximum load by keyboard.
* Load operation: keyboard or pedal.
* Electronics: 16 bit microprocessor system, connectable to peripheral units.

hardness tester

ESATEST





* Available files: 64.
* Capacity of memory: 4000 values.
* Keyboard: function keys F1, F2, F3, F4, F5.
* Selectable functions: scales, tolerances, calibration, statistics, graphics, certificate printing, language selection, file configuration, etc.
* Outputs: RS 232 C for printer, RS 232 C bidirectional for computer, parallel.
* Certification: all results can be printed in 5 languages with date and hour.
* Calibration: possibility for the user to calibrate the hardness tester on certificated test blocks.

Stand: Revolving on three axis.
Maximum measurable height: 230 mm. *Depth.* 110 mm.
Easy application on other supports.
Overall dimensions:
height 380 mm. x width 150 mm. x depth 350 mm.

* *Power supply:* single-phase from 100 to 220 VAC, 50/60 Hz with earthing.
* *Ambient temperature:* 10 - 40° C, with sensor for automatic temperature compensation.
* *Gross weight:* 10 Kg.

We reserve the right to make modifications

Standard Accessories

- Vickers test block calibrated at 1 and 10 kp
- V-anvil for rounds ø 60 mm, 3 STAT-010
- V-anvil for rounds ø 30 mm, 3 ATP-522
- V-anvil for rounds ø 6 mm, 3 ATP-523
- Plastic cover
- Instruction manual
- Support for test block
- Kit for non magnetic material
- Keys
- Fuses
- Feeding cable
- Magnetic sensor cable
- Pedal
- Wooden box

Special accessories

- Special scales
- Spare indenter
- 80 columns printer
- Printer cable
- Software for visualization of the hardness curve on PC

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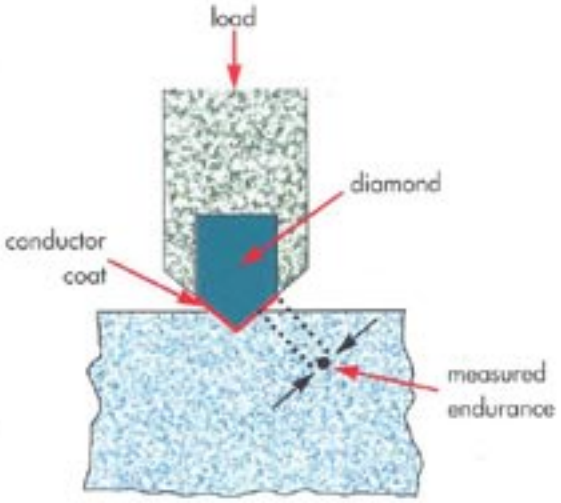

The ERNST factory is specialized in the development of high quality hardness testers. It has experience of more than fourty years on the international market and in continuing research for new technological solutions able to solve problems in hardness testing of metals. The answer is **ESATEST**, *a new hardness tester which measures the electric resistance. This new principle of hardness determination, patented by us, allows to carry out testing in difficult, or until now inaccessible points. The wing of a supersonic plane, the wishbone of a racing formula 1 car, a turbine blade, a wheel joint, are only some of the "difficult" points which* **ESATEST** *is able to reach issuing data with a detailed comparative diagram.*

ESATEST, *the technological change which recognizes the most hidden hardness.*

hardness tester

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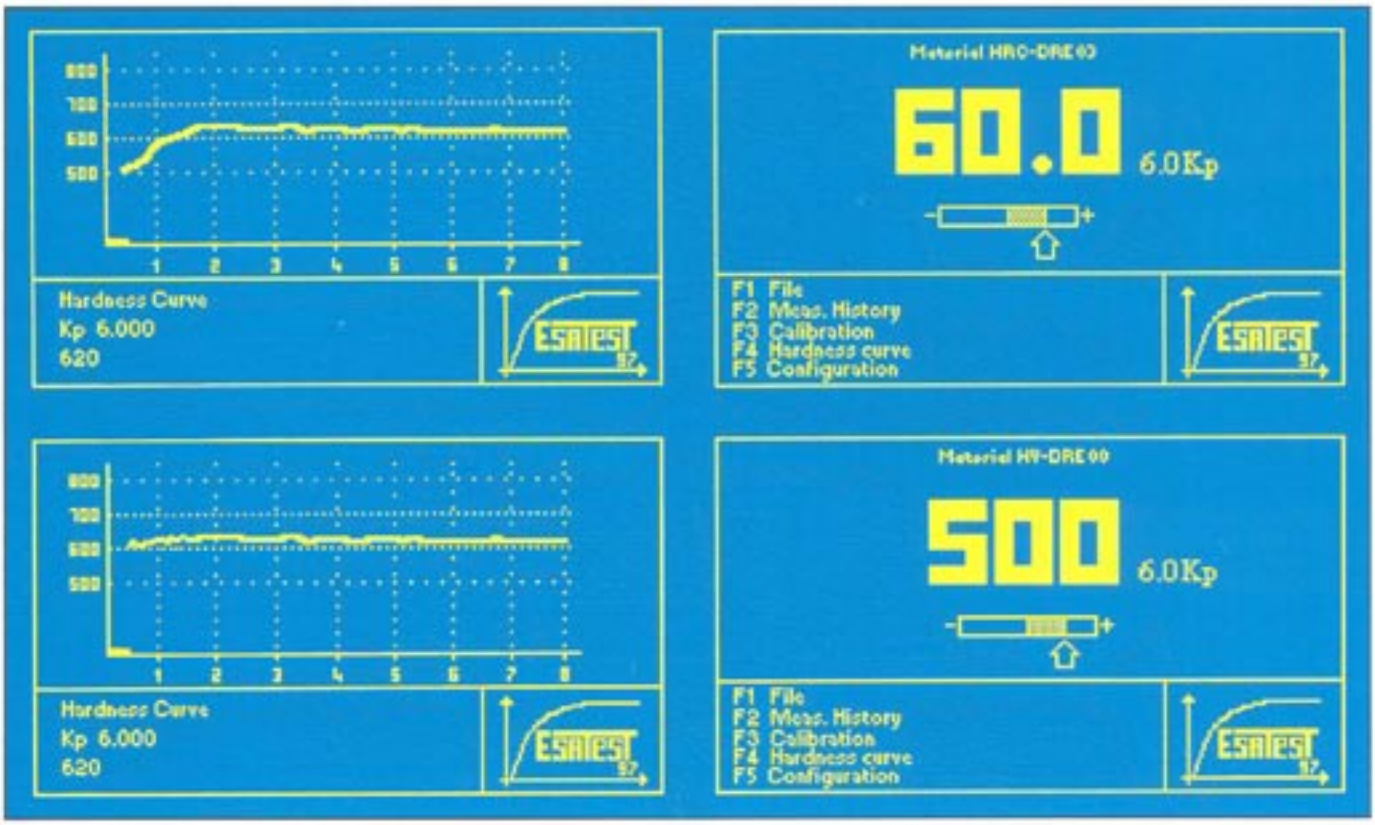

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