PERMEABILITY TEST BENCH

BTPERM

SIMPLIFIED USER MANUAL

Serem INDUSTRIAL ELECTRONICS
ZI François HORTEUR - 73660 SAINT REMY DE MAURIENNE - FRANCE - Tel: +33 (0)4 79 64 14 44 - Fax: +33 (0)4 79 64 47 97
E-mail: info@serem-electronics.com - Site: **www.serem-electronics.com**

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GENERAL SPECIFICATIONS

Measure ranges:

Pressure	0 - 1 Bar,
Accuracy:	0.2% FS,
Air flow	0 - 1 L/min,
Accuracy:	0.1% FS,
Air temperature	0 - 50°C,
Accuracy:	1% PE,
Permeability calculated	0.1 - 25 Nperm,

Samples:

Nominal diameter:	50mm +/-2%
Height nominal:	50mm +/-2%,

Interface:

1 Panel PC with 17“touch screen for management of process,
3 USB sockets (including one on front side),
1 Ethernet Plug,
1 Main cut-out switch,
1 luminous start button,
1 button to start again in order to facilitate the installation of the sample,
1 button for ejection by air of sample in place,
1 reset button for emergency stop,
1 sample support 50mm equipped with its protection cover,

Test limit:

Max.pressure loss:	1 bar,
Max.flow:	1 l/min,

Supply:

Electrical:	115Vac/230Vac, 50-60Hz,
Air pressure:	4 bar minimum,

START-UP

The start-up of the test bed is carried out by holding down the luminous " START" button located on the right front side, until the small green indicator on the top of the screen ignites. If "START" is not lit, to check that the bed is well connected to the sector opposite on the rear side and that the " CUT-OUT SWITCH" on the right side is in position I

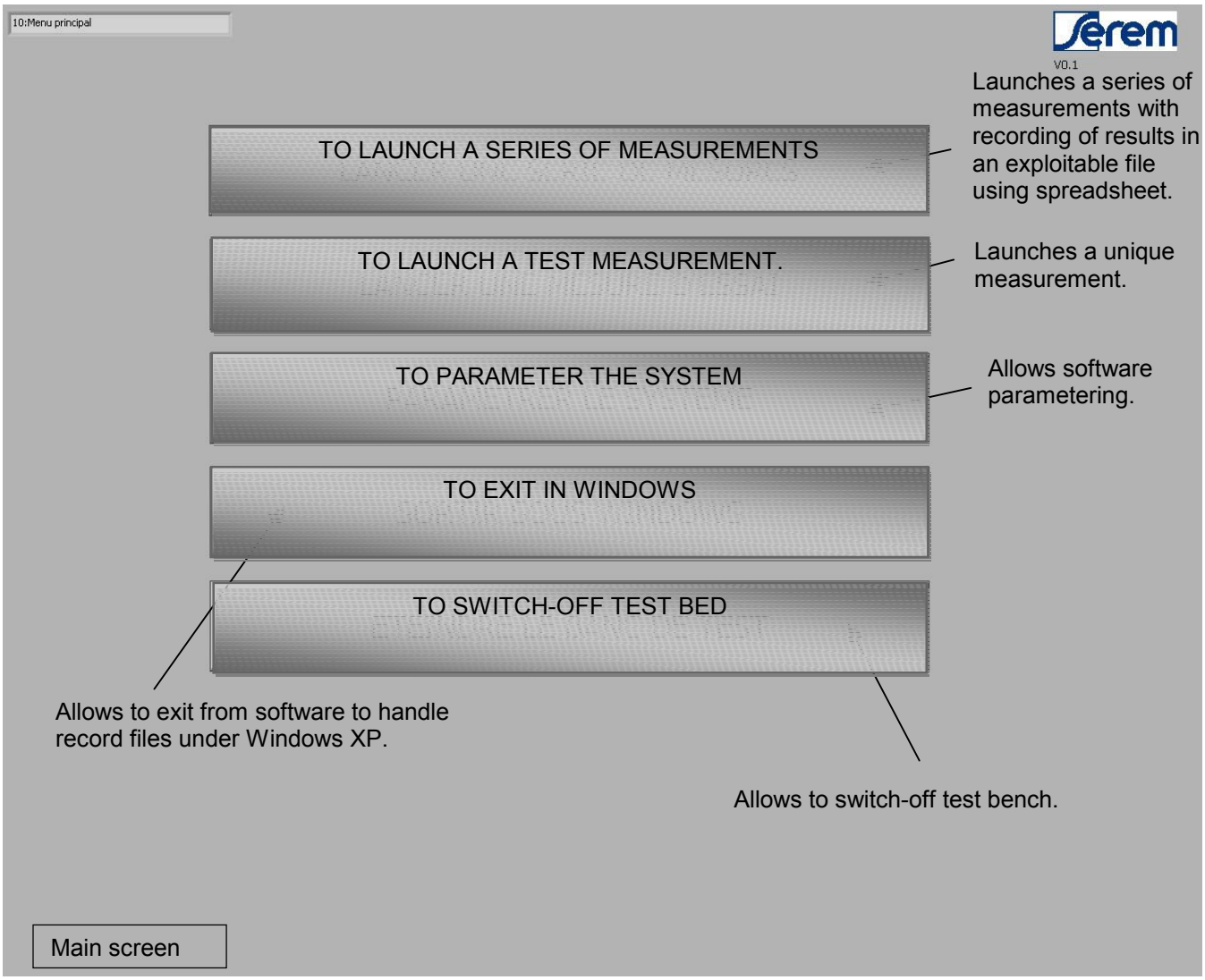
On start-up of the bed, the test software of permeability is automatically set and ready to function.

SOFTWARE : Tree structure of program

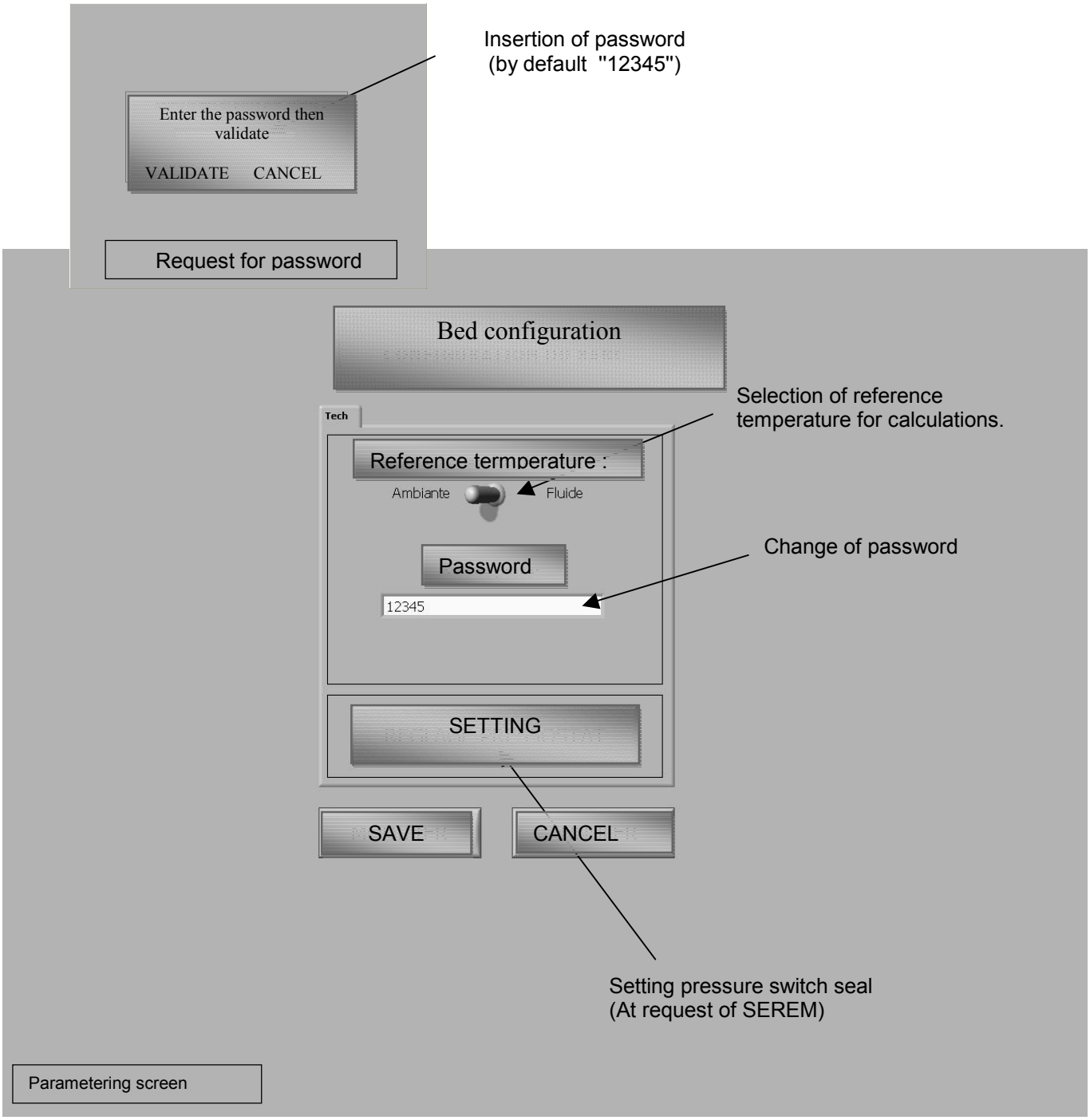
C: \BTPERM — *main file obligatorily under root C:*

- BTPERM.exe — *software file*
- permeability.cfg — *backup file for software configurations*
- **\Reports** — *file containing test reports for measurement series and benchmark file*
  - calibrations.xls — *file containing test results of each calibration of start of series*
- **\Traces** — *file containing the test reports of the measurement series*
  - permeability.trx — *temporary file of system traces (Use of SEREM)*
- **\Maintenance** — *file containing maintenance applications (Use of SEREM)*

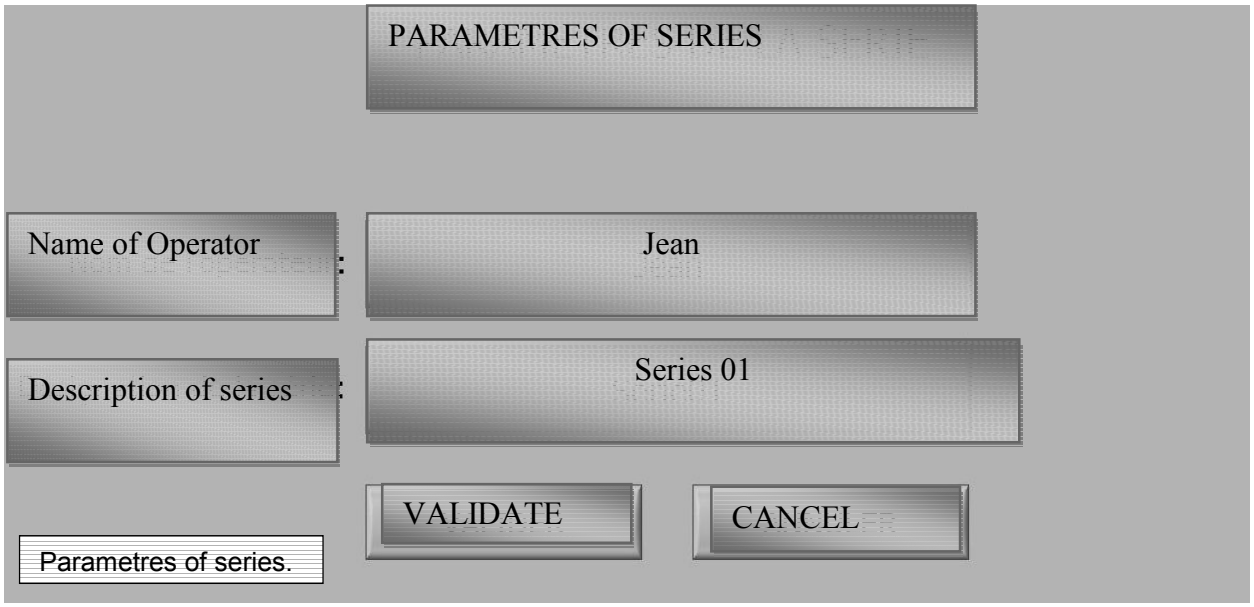
SOFTWARE : Main menu

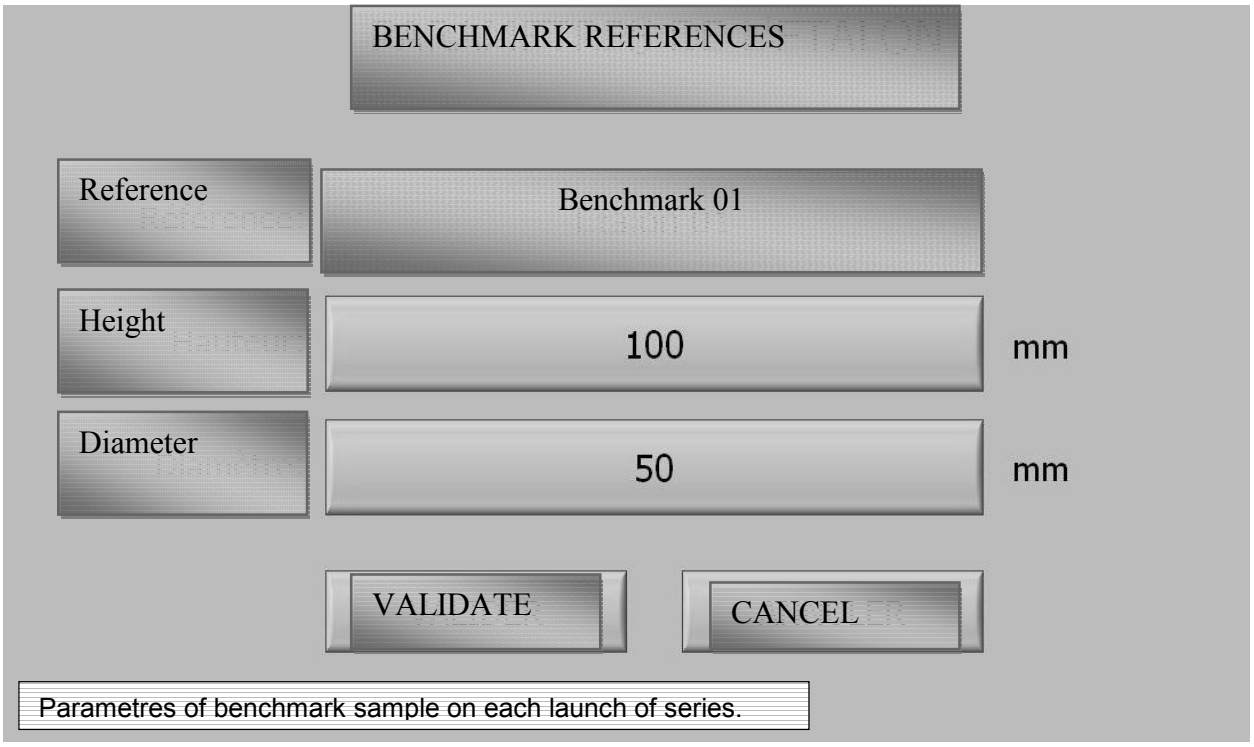


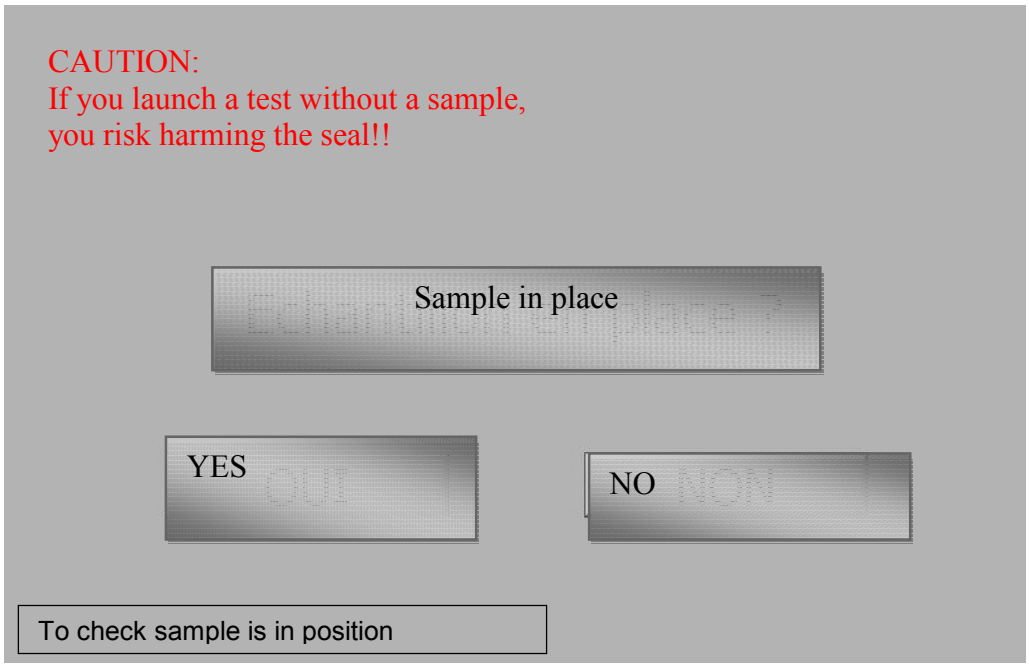
SOFTWARE : Parametering of system

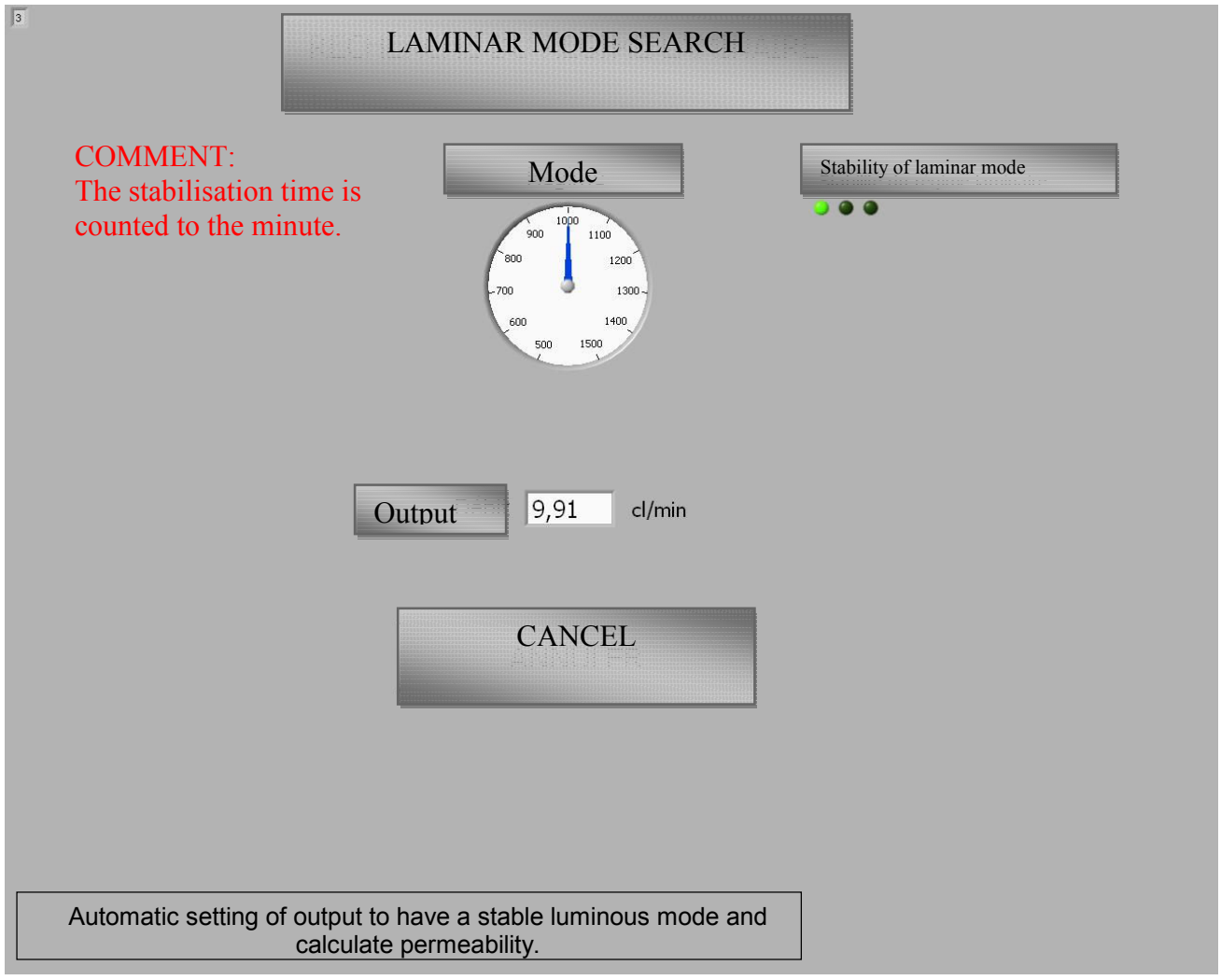


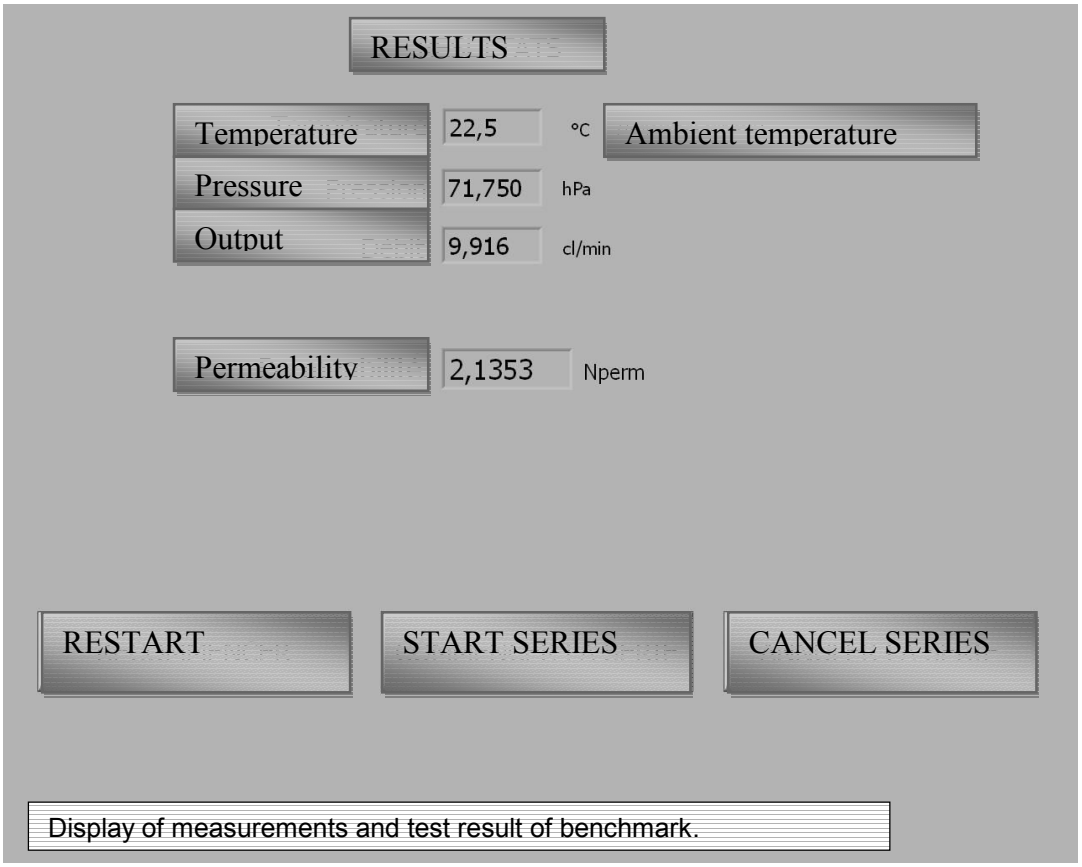
SOFTWARE : Measurement series

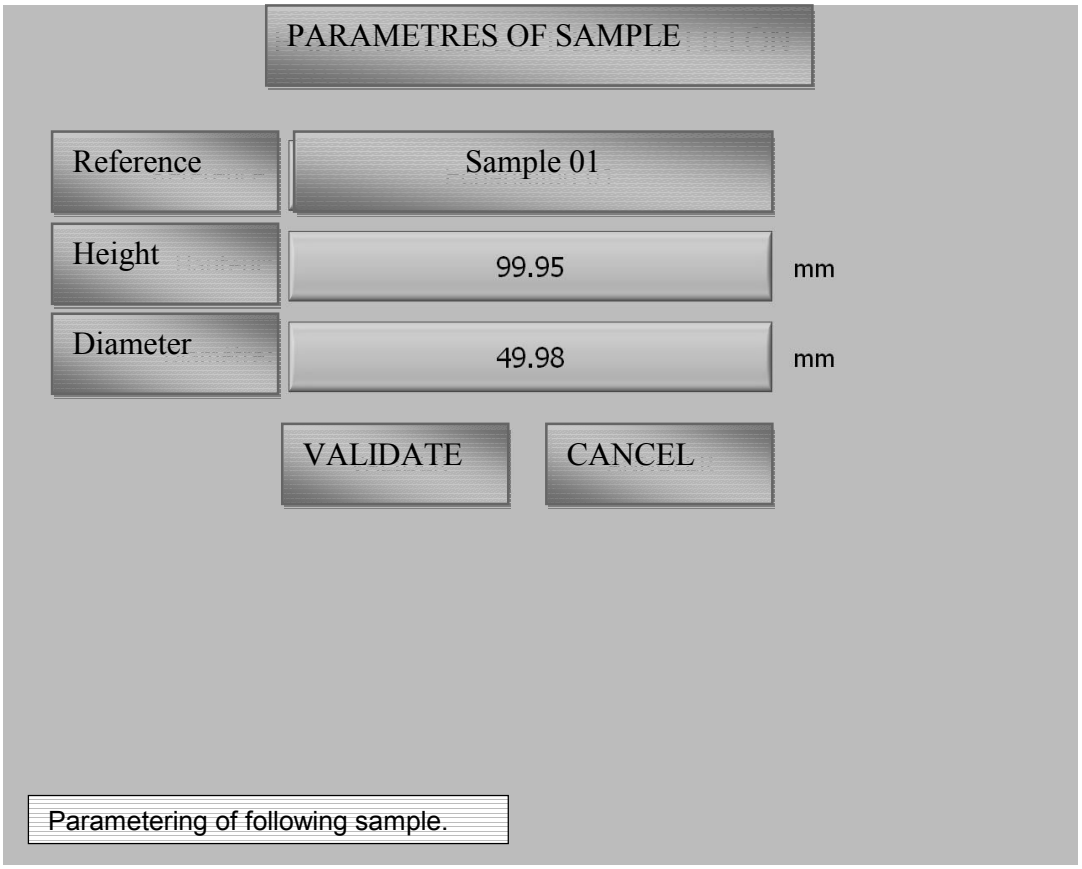


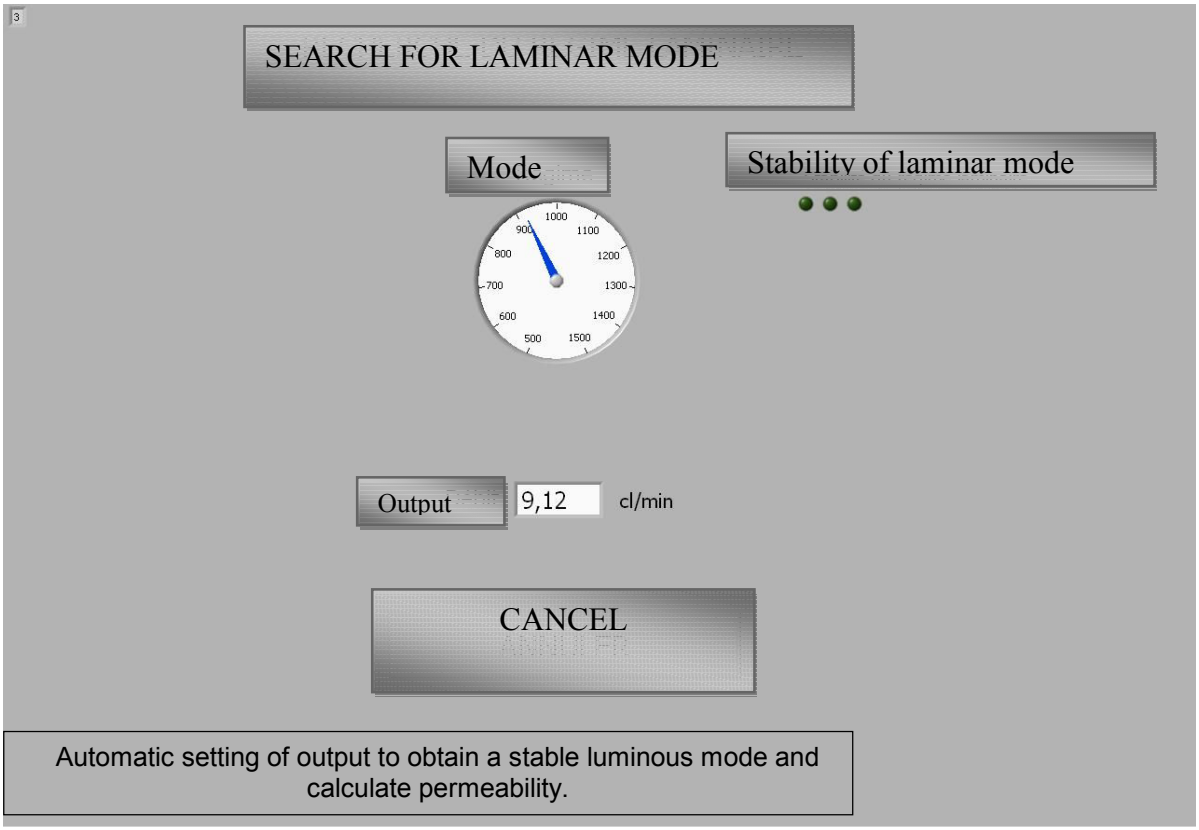


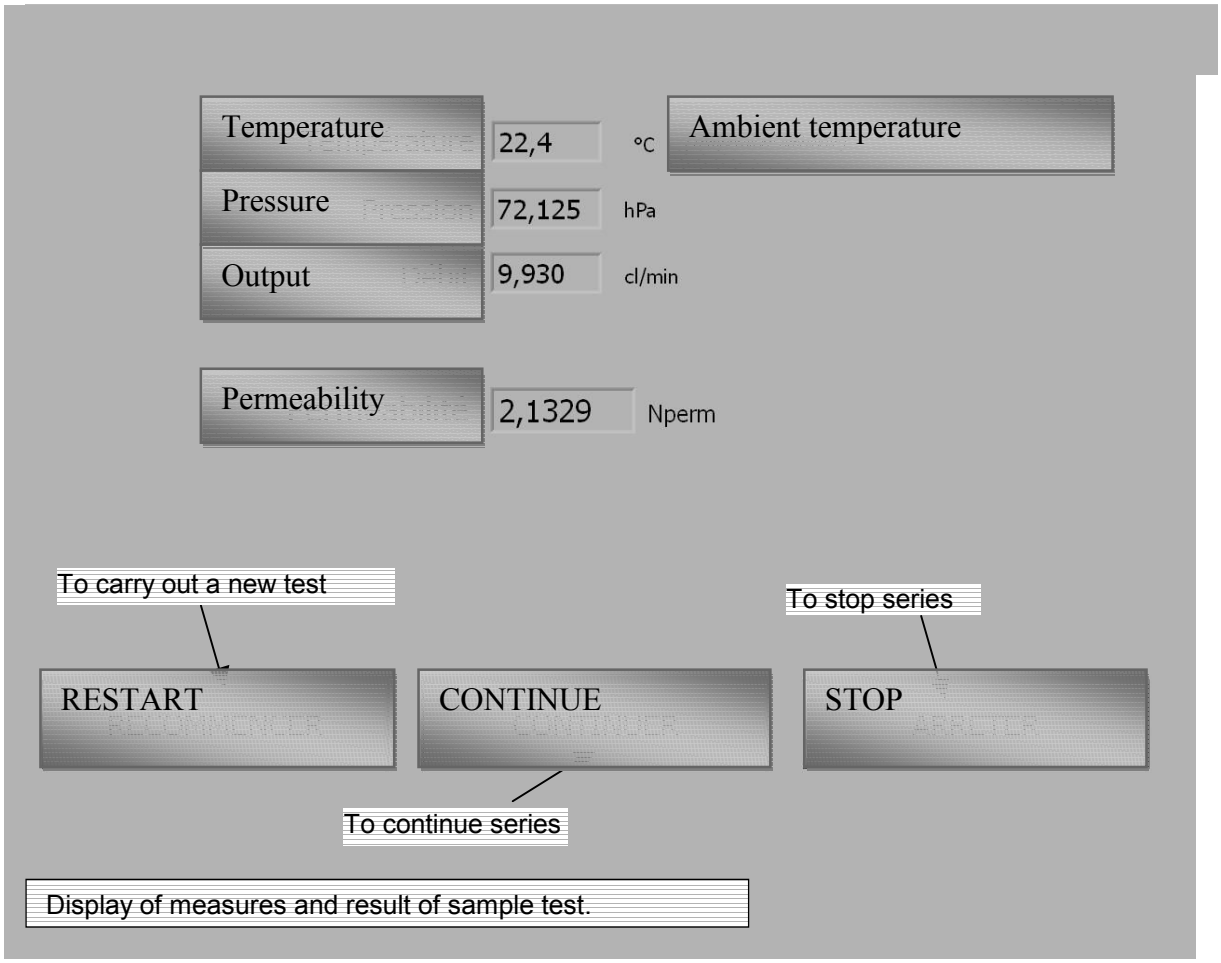

CAUTION:
If you launch a test without a sample,
you risk harming the seal!!
Sample in place
YES
NO
To check sample is in position


LAMINAR MODE SEARCH
COMMENT:
The stabilisation time is
counted to the minute.
Mode
Stability of laminar mode
1000
900
1100
800
1200
700
1300
600
1400
500
1500
Output
9,91
cl/min
CANCEL
Automatic setting of output to have a stable luminous mode and
calculate permeability.


RESULTS
Temperature
22,5
°C
Ambient temperature
Pressure
71,750
hPa
Output
9,916
cl/min
Permeability
2,1353
Nperm
RESTART
START SERIES
CANCEL SERIES
Display of measurements and test result of benchmark.


PARAMETRES OF SAMPLE
Reference
Sample 01
Height
99.95
mm
Diameter
49.98
mm
VALIDATE
CANCEL
Parametering of following sample.


SEARCH FOR LAMINAR MODE
Mode
Stability of laminar mode
Output
9,12
cl/min
CANCEL
Automatic setting of output to obtain a stable luminous mode and calculate permeability.


Temperature
22,4
°C
Ambient temperature
Pressure
72,125
hPa
Output
9,930
cl/min
Permeability
2,1329
Nperm
To carry out a new test
To stop series
RESTART
CONTINUE
STOP
To continue series
Display of measures and result of sample test.

INSTALLATION OF A SAMPLE

To introduce the sample (a) into the sample holder *(b)* using button *(c)* while pressing on empty button *(d)* Once button stopped, to release empty button and to give short blasts on the ejection button *(e)* in order to ensure that sample is making contact on pressing button; i.e. that it is not too far in the sample holder *(Figure 2)* **Caution!** If not *(Figure 3),* the action taken will be wrong and the seal likely to be damaged.

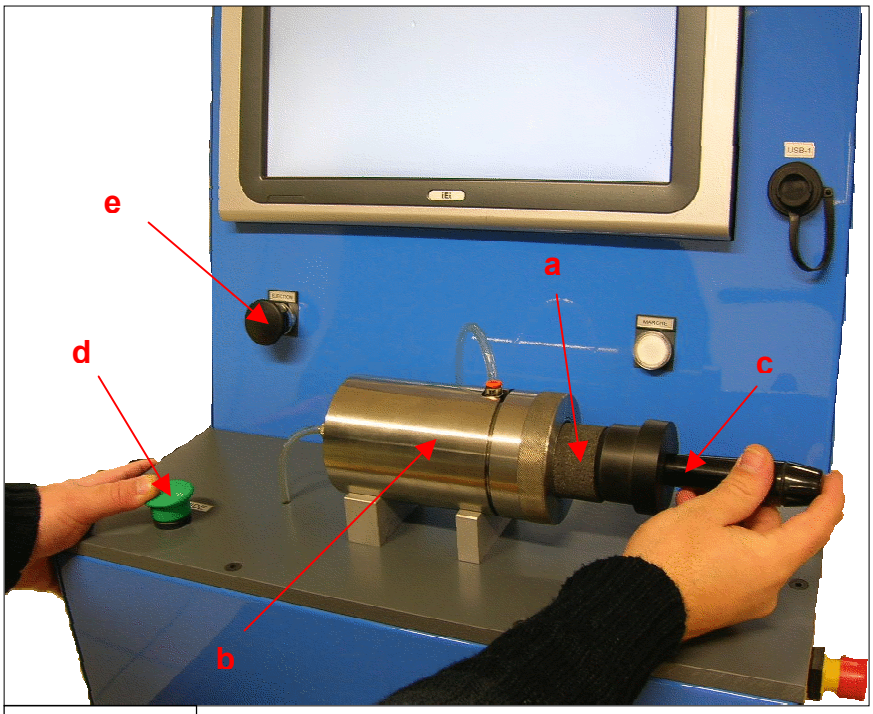


Diagram 1

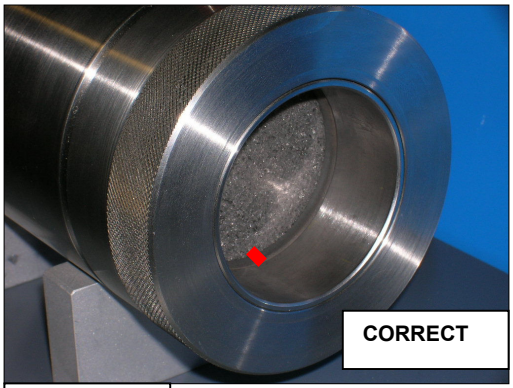


Diagram 2

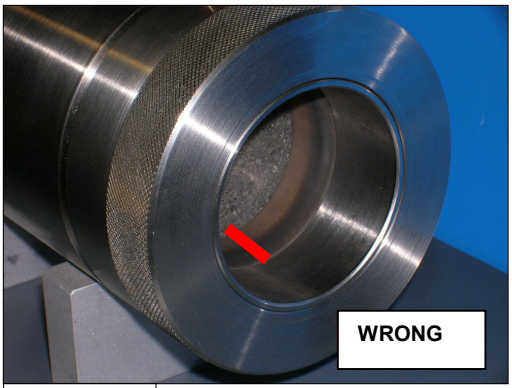


Diagram 3