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Poseidon LT - 100

Manual English

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Elektronische Zeitmeßtechnik

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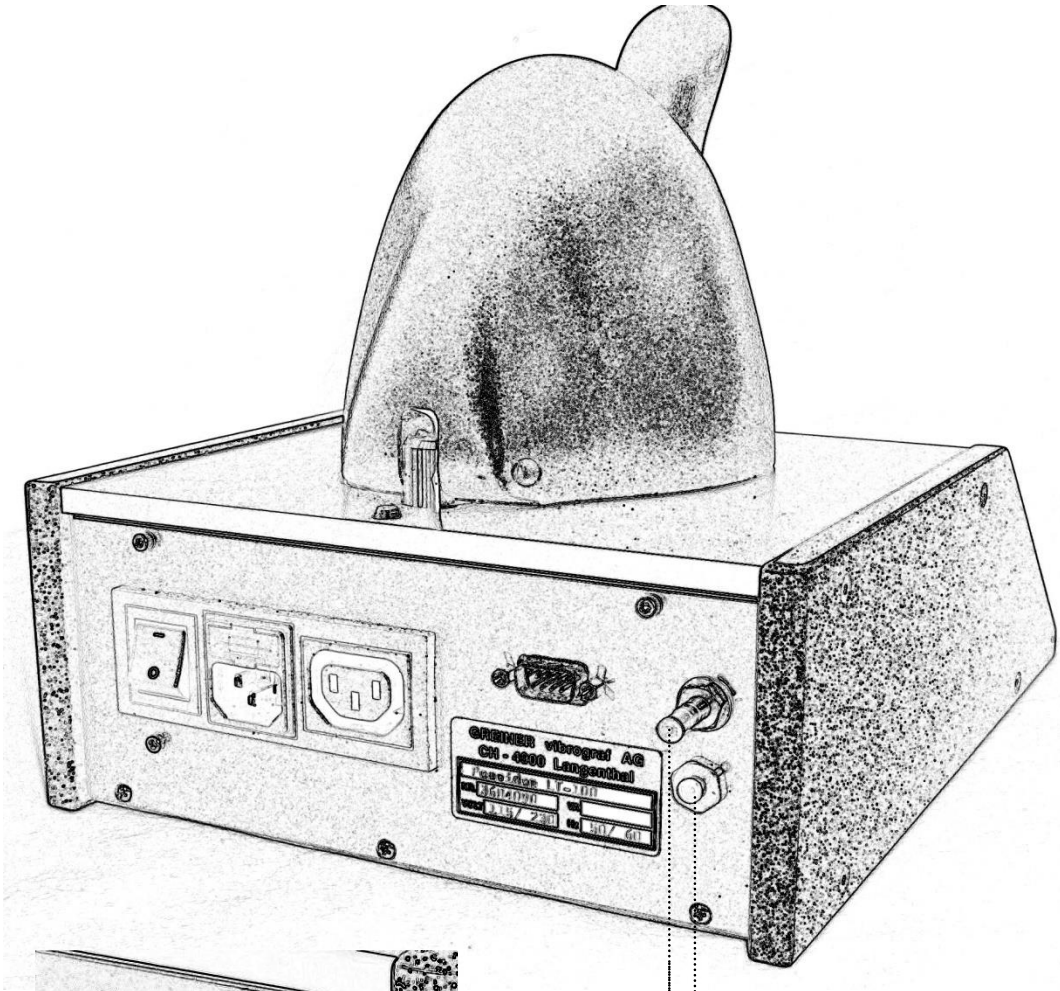
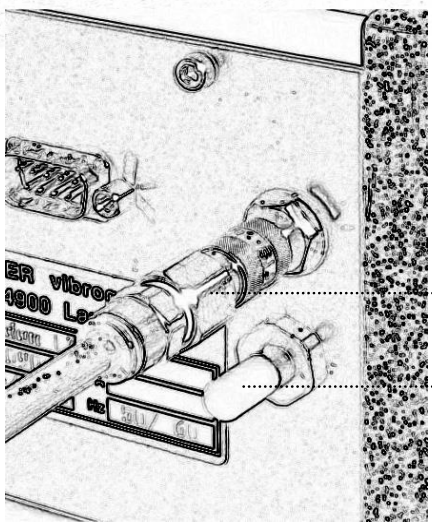
Installation of the Device





Remove protective plug and attach fast-coupling.

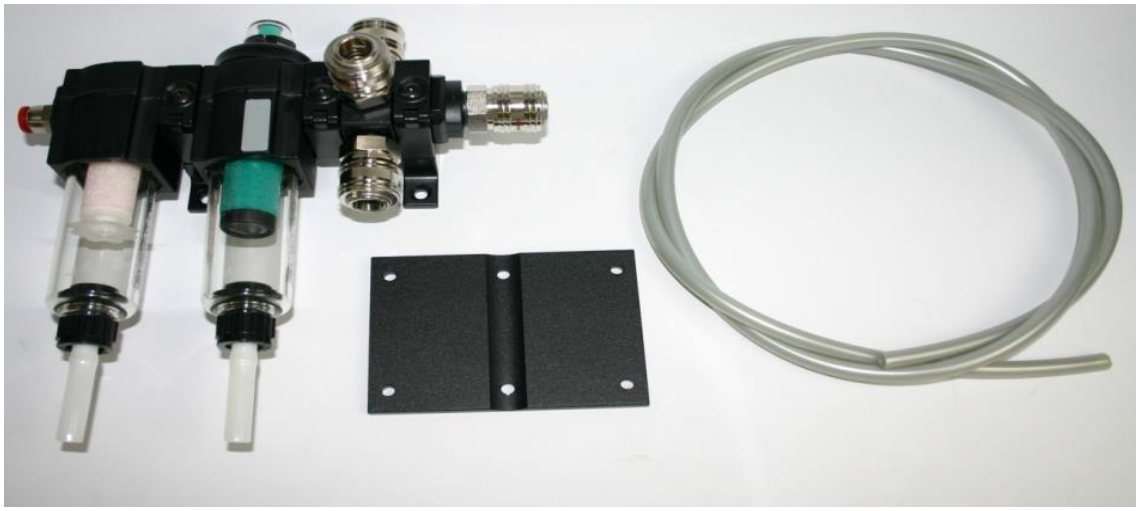
If there is a plastic protection, remove it and install the included air release filter.
If there is a brass filter, leave it there.

Furring caused by humidity (condensation) and dirt (dust particles) impair the function of the valves of the Poseidon LT-100.

Therefore we recommend that your compressor is provided with a maintenance unit in order to exclude damage to the equipment.

Should arise damage to the Poseidon LT-100 by neglect of this recommendation, we reject each guarantee for this.

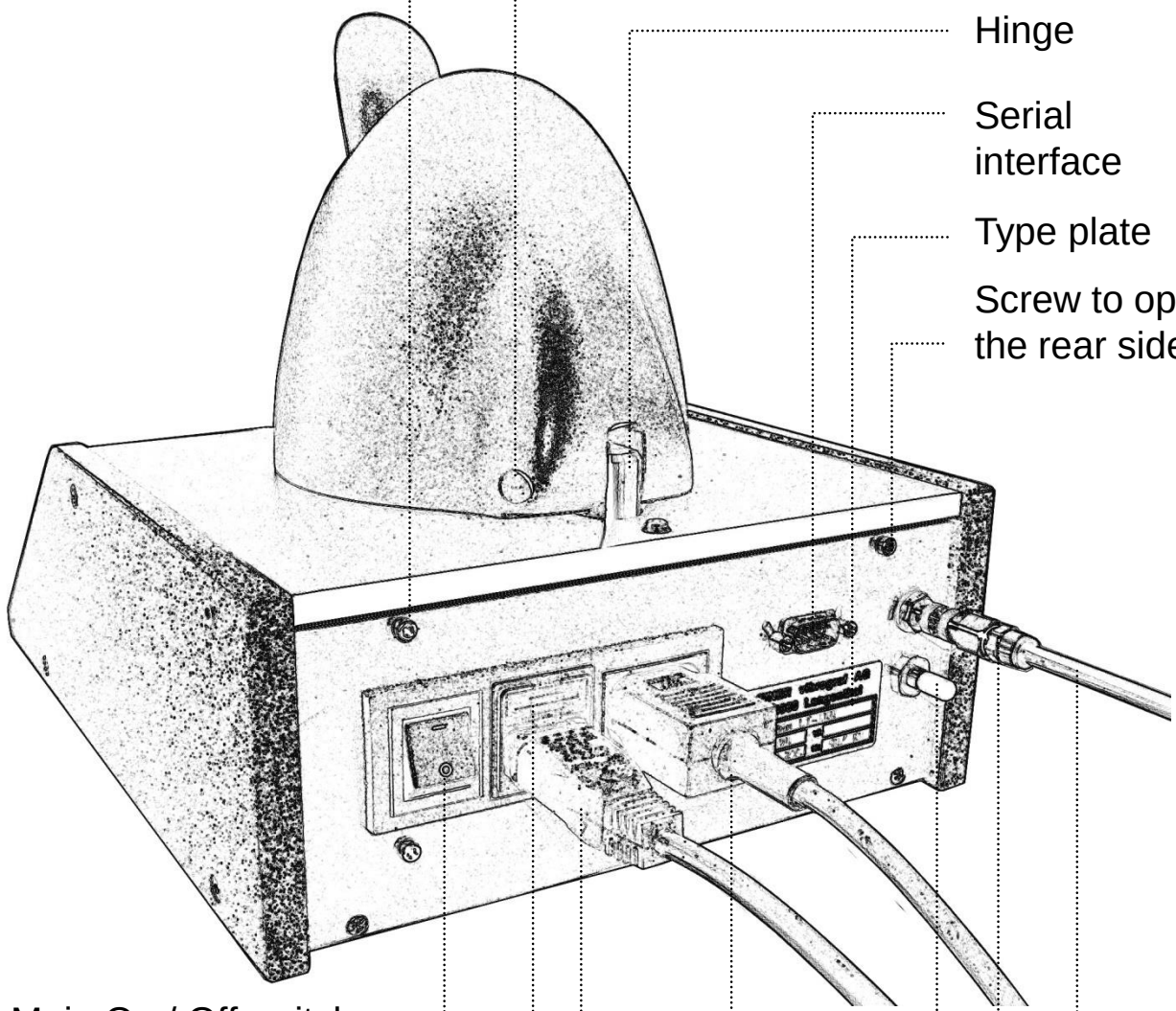
Following maintenance unit can be furnished by us:



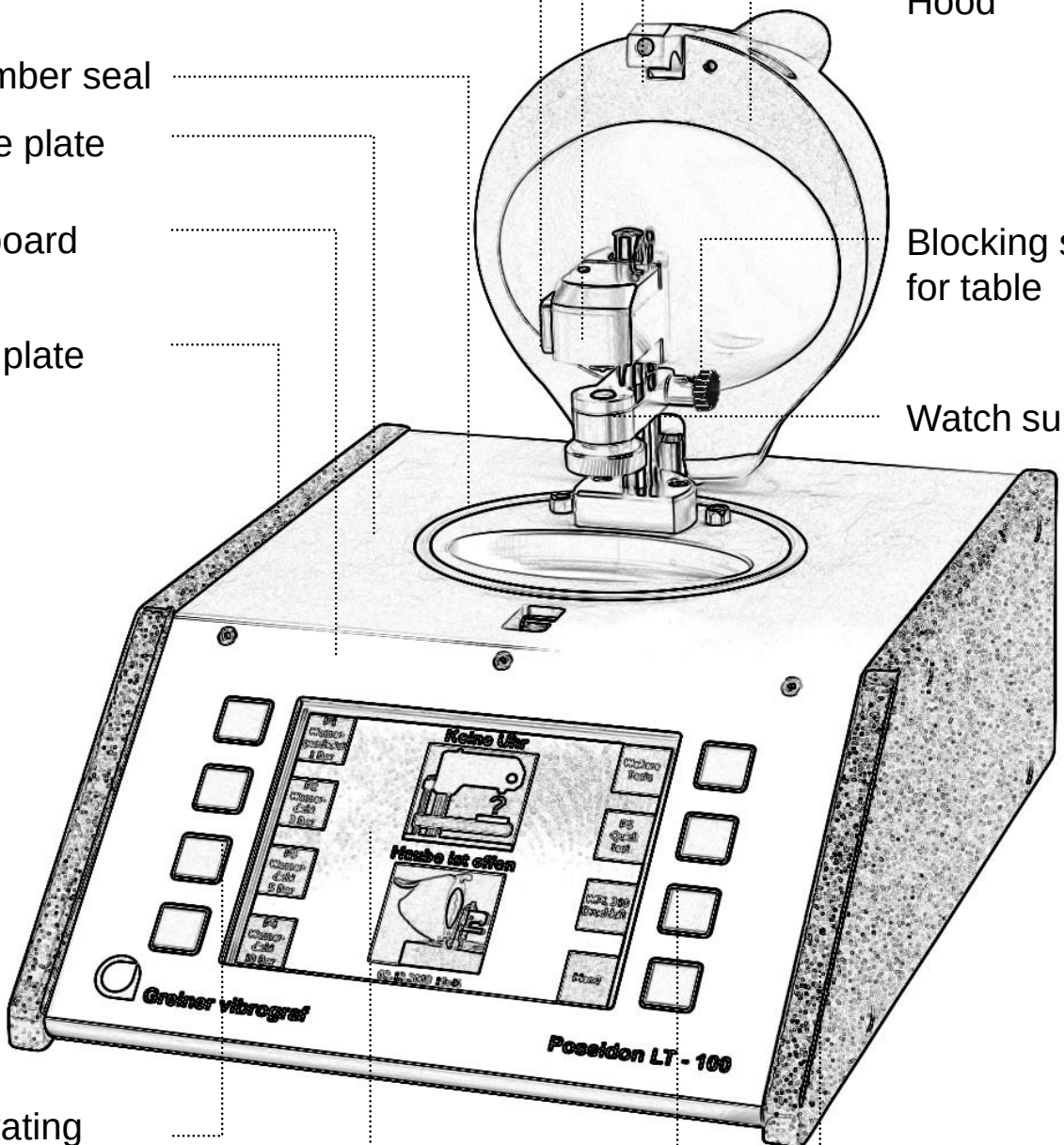
Maintenance unit consist of:

- compressed air filter
- high level filter with contamination indicator
- connection block
- attaching bracket
- semiautomatic drainage
- air filter element 5um
- air filter element 0.01 um
- 2 fast clutches
- hose for connection with compressor

Description of the Parts



Description of the Parts



Locking lever

Measuring head

Clamping plate to measuring head

Hood

Chamber seal

Base plate

Keyboard

Blocking screw for table

Side plate

Watch support

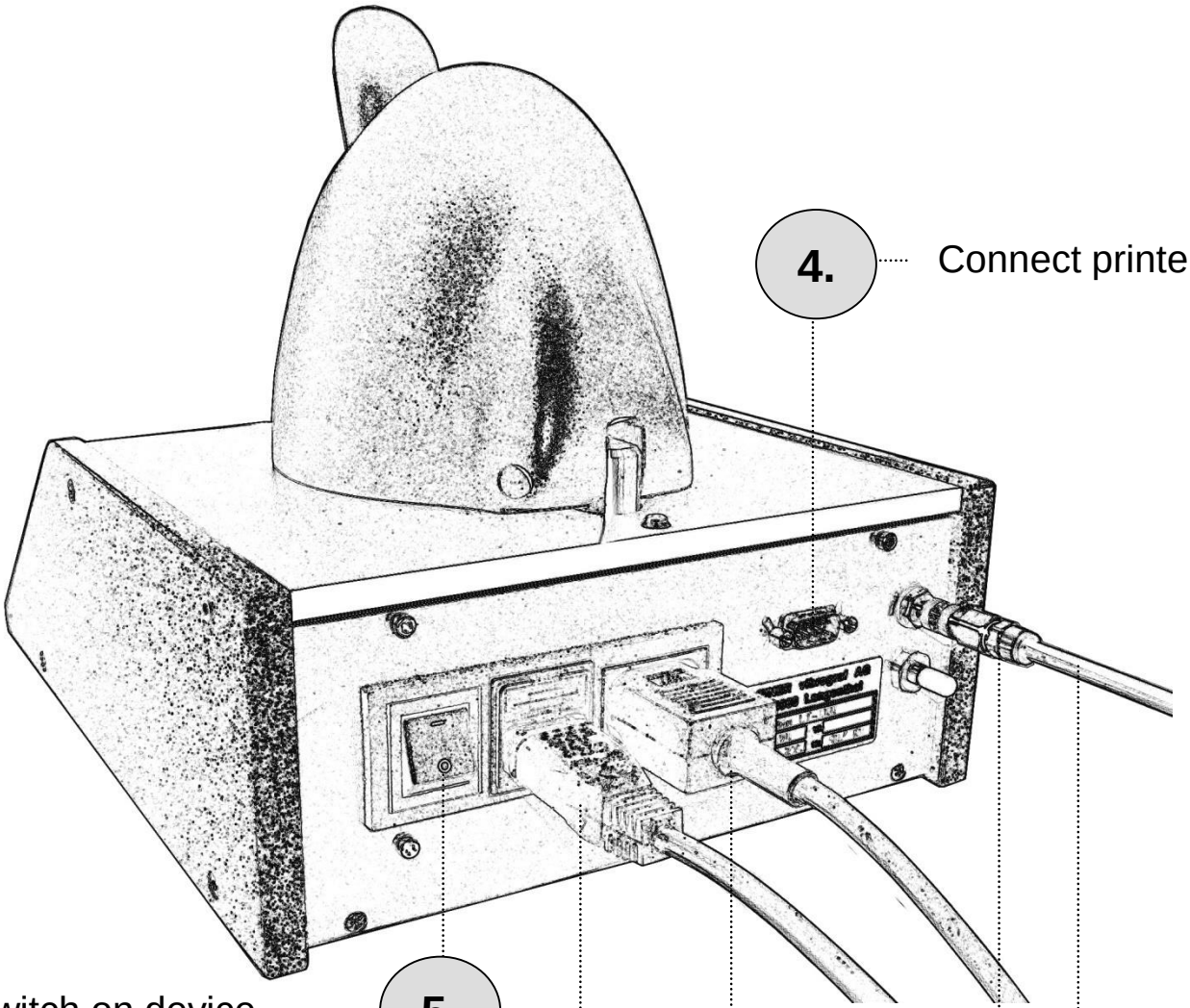
Operating keys

Side plate

Colour display

Operating keys

Bring into Use



4. Connect printer

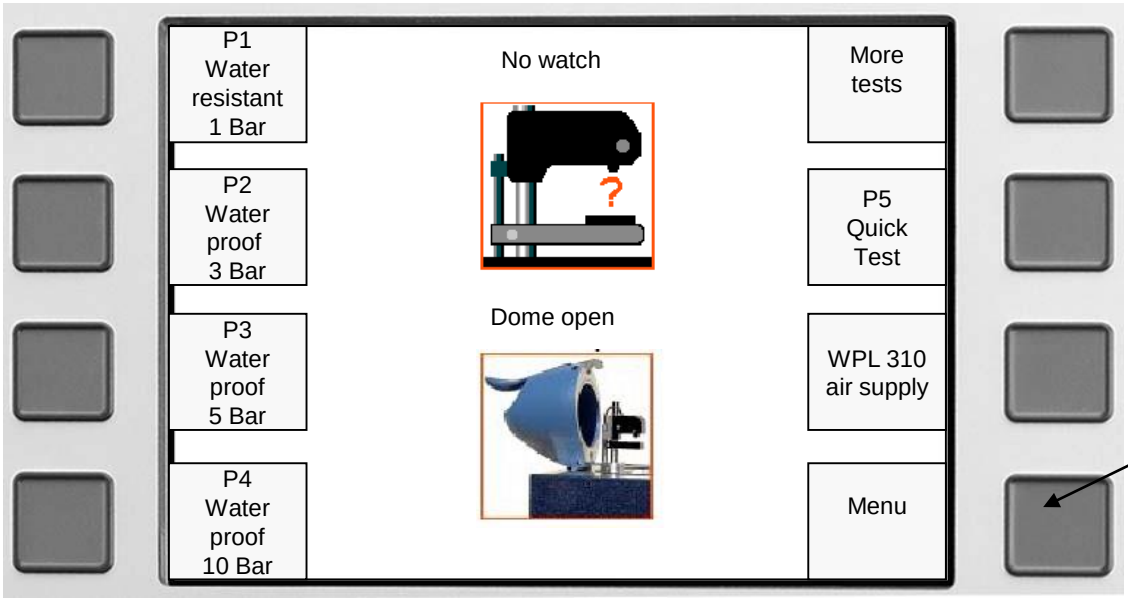
Switch on device **5.**

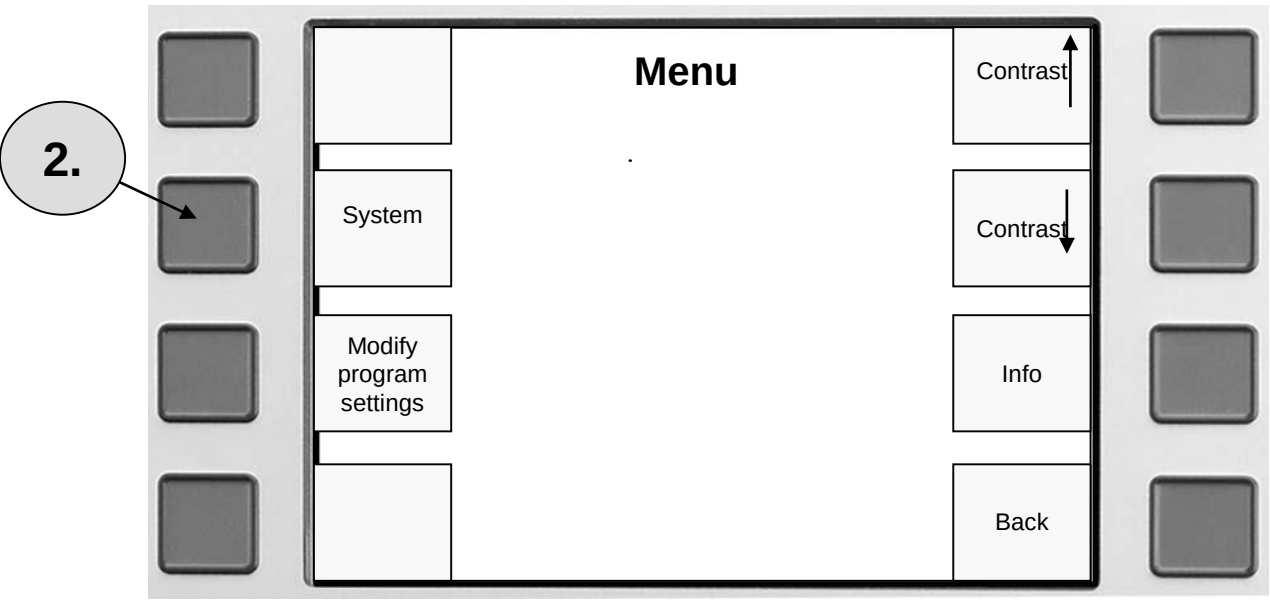
Connect mains cable
230 Volt 50/ 60 Hz
or 115 Volt 50 / 60 Hz **3.**

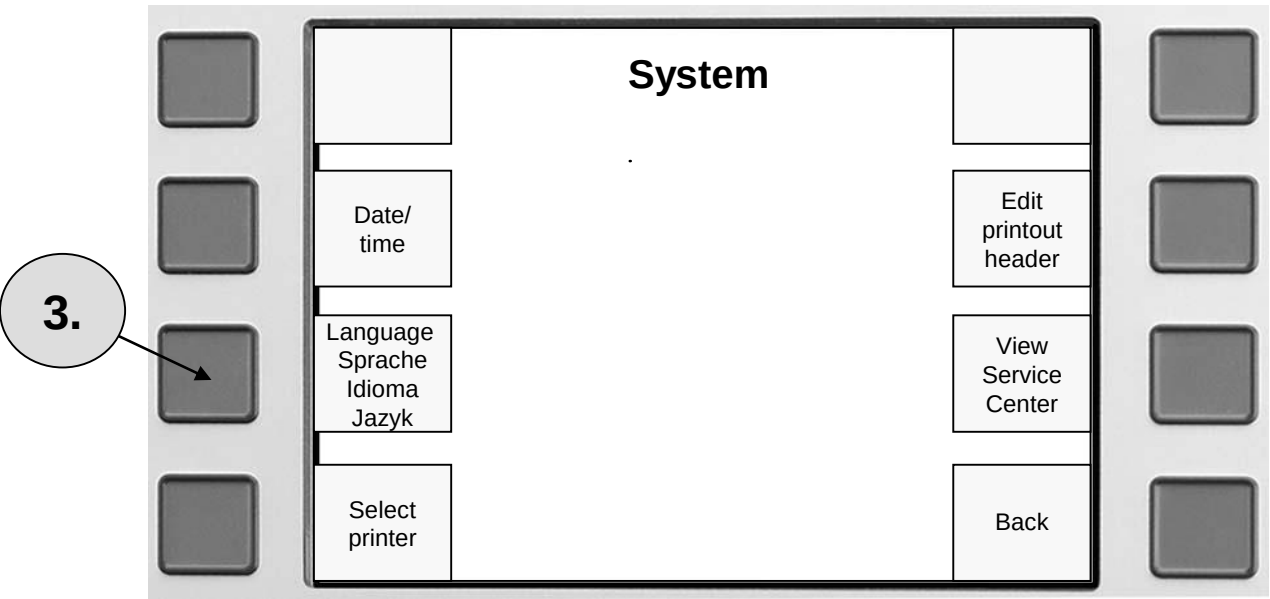
Connect compressor cable,
only if a compressor without
reservoir is used **2.**

Connect compressed air hose dia. 6 mm from
compressor with or without reservoir or from an
existing compressed air system **1.**

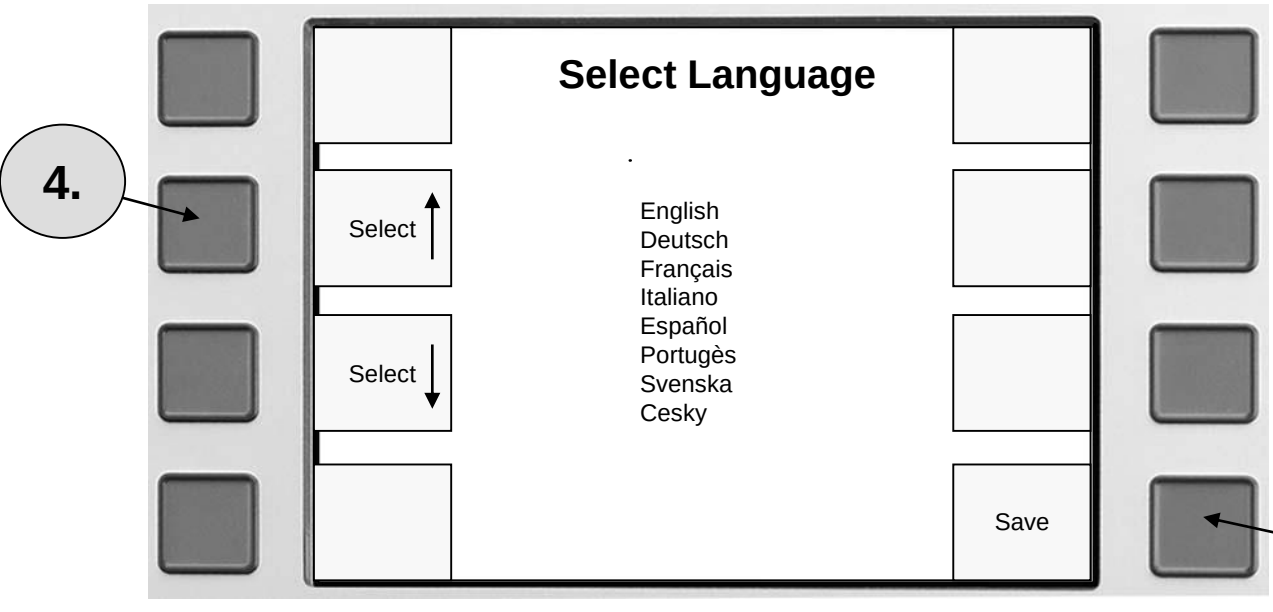
Select Language - Set Date and Time

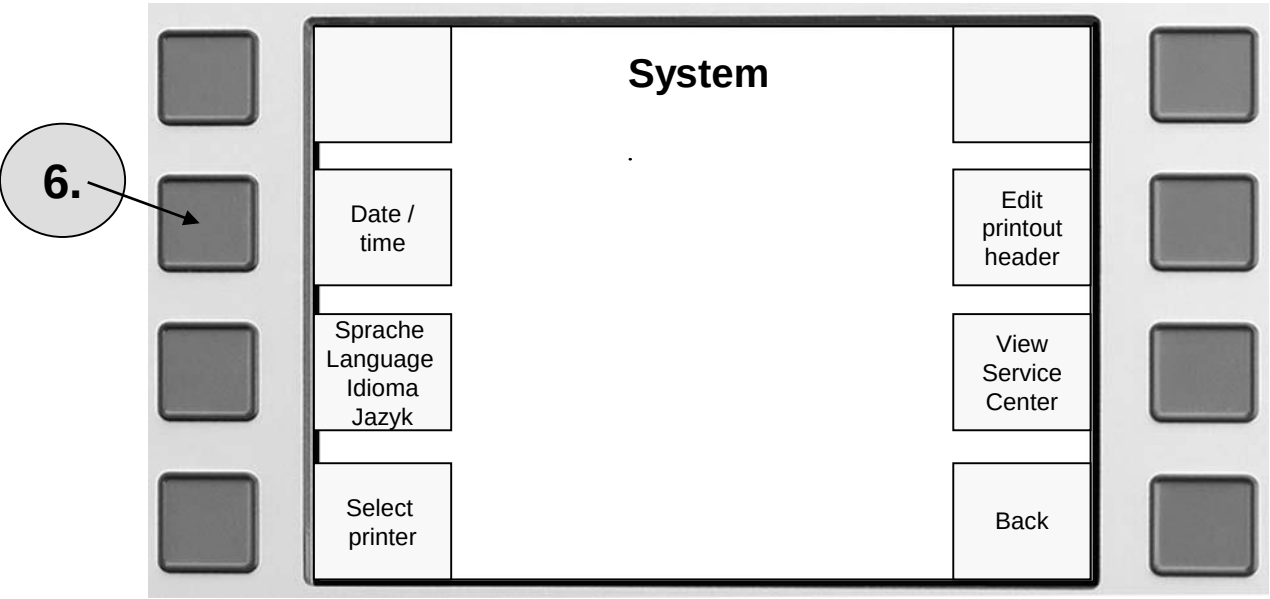


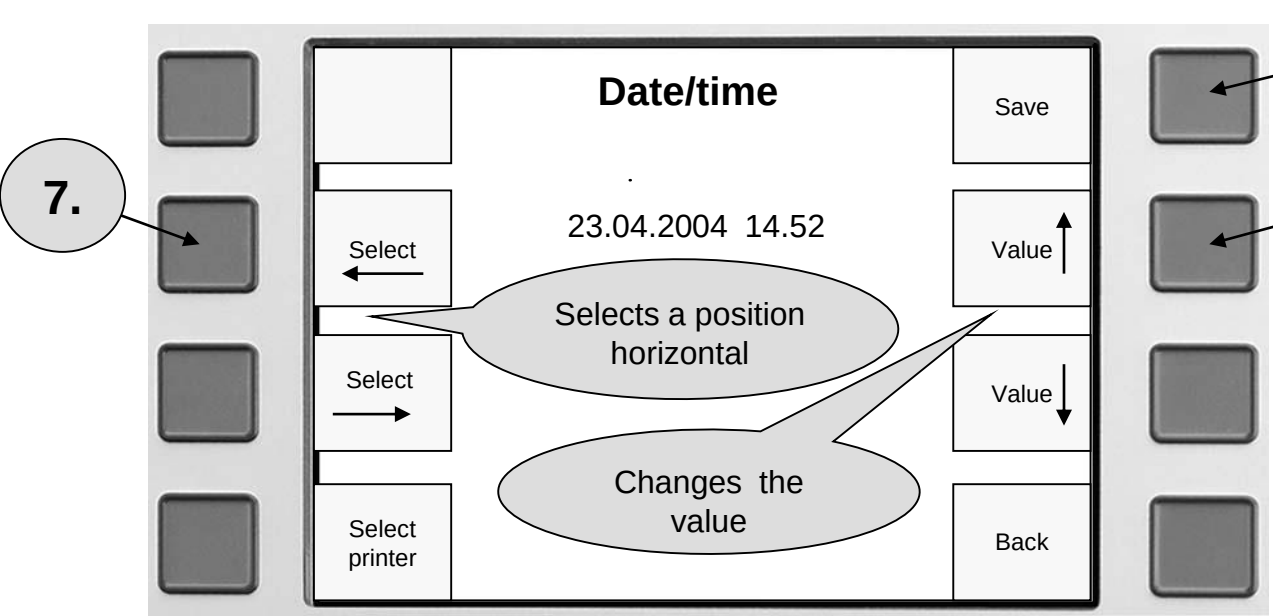




Select Language - Set Date and Time



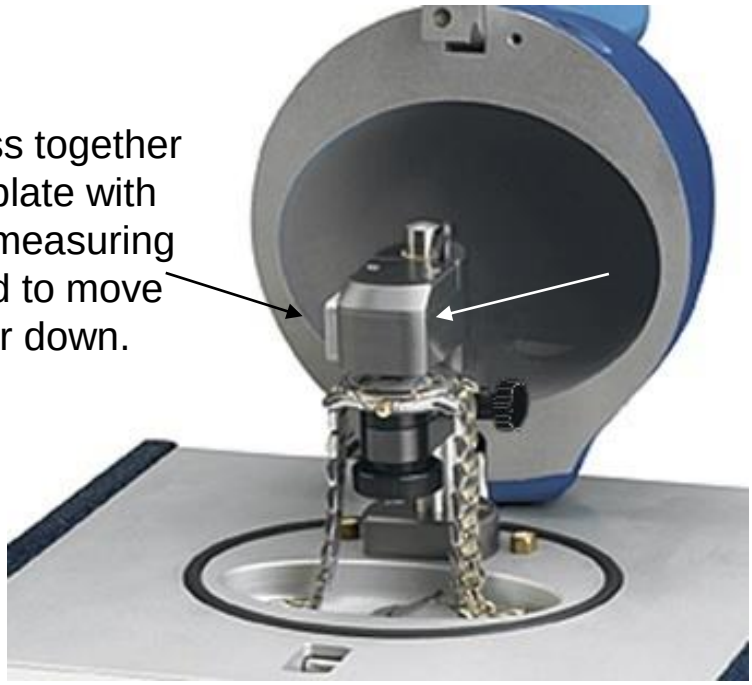




Test a Watch for Tightness

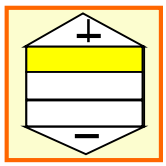
1. Lay the watch on the table rest as shown in the picture.
2. Move with the measuring head by pressing the measuring head downwards onto the watch.

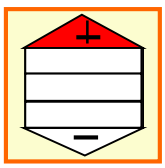
Press together the plate with the measuring head to move up or down.



This indication appears on the display.

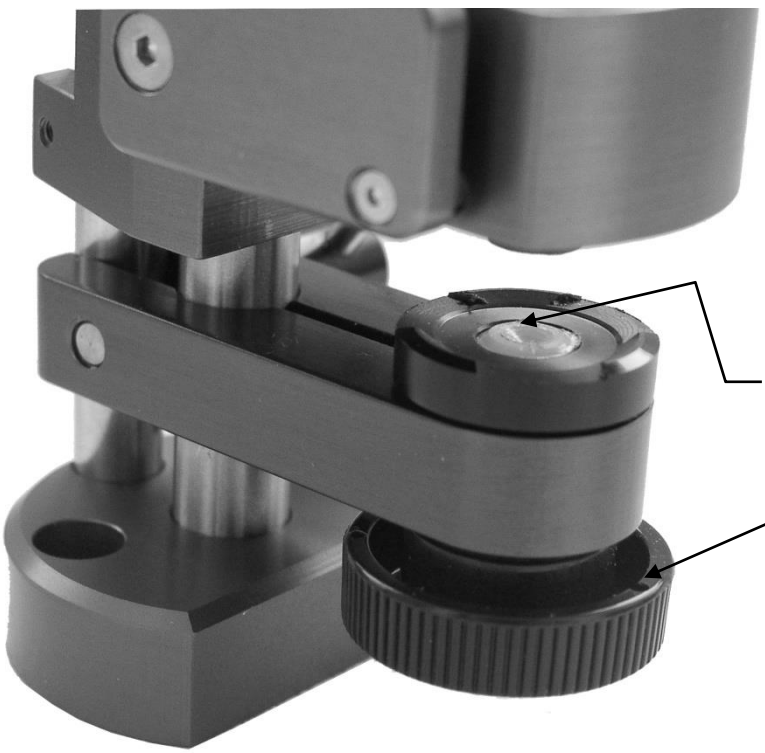
If one of the following indications appears,





see on page 20 + 21.

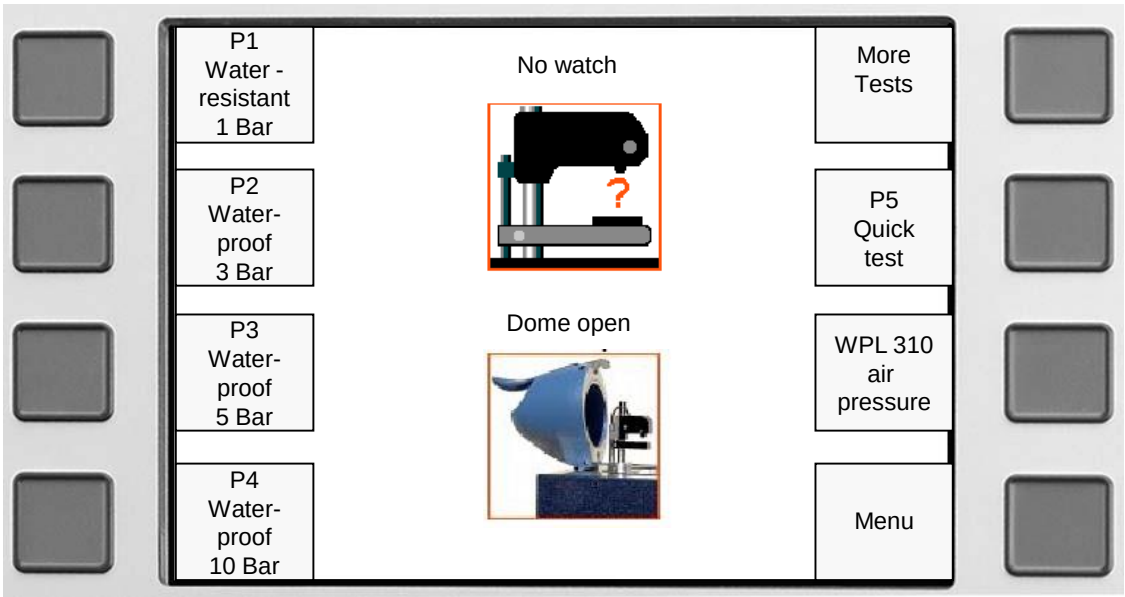
Information:
For small and very hard watches, use the small watch rest.



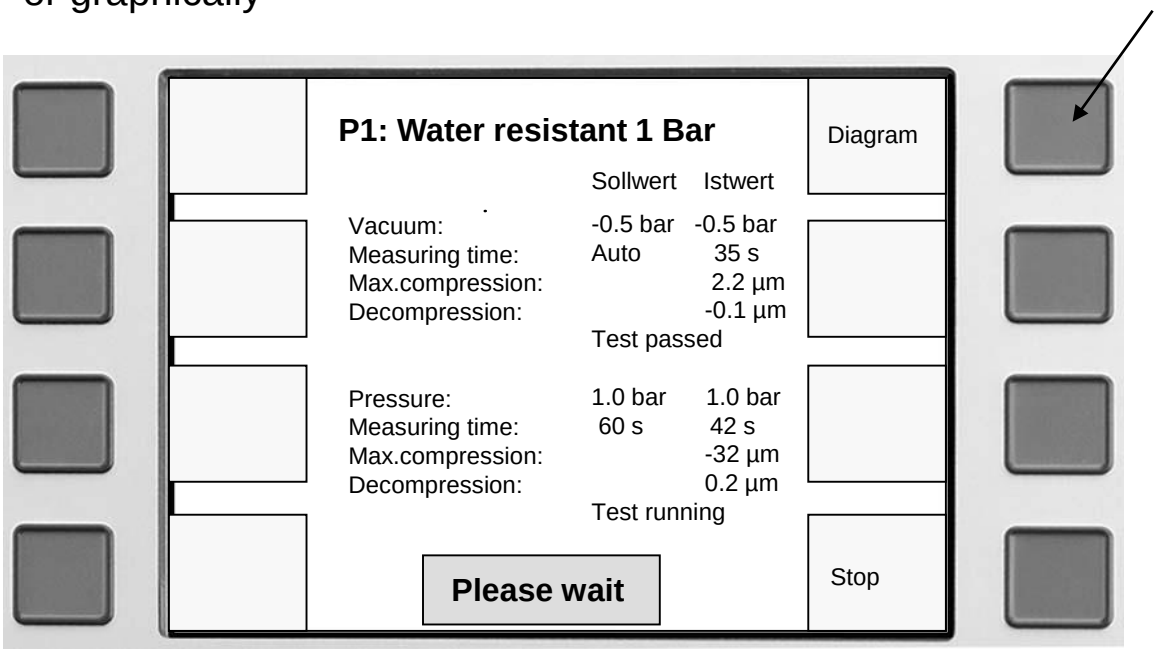
The small watch rest can be moved upwards by turning the screw to the stop in the clockwise direction.

Test a Watch for Tightness

1. Select a test (P1 , P2 , P3, P4), (Quick Test) or (more tests). See Pages 12, 13, 14.
2. Close the hood. The test will be started automatically.



During the test you can choose to see the results as values or graphically

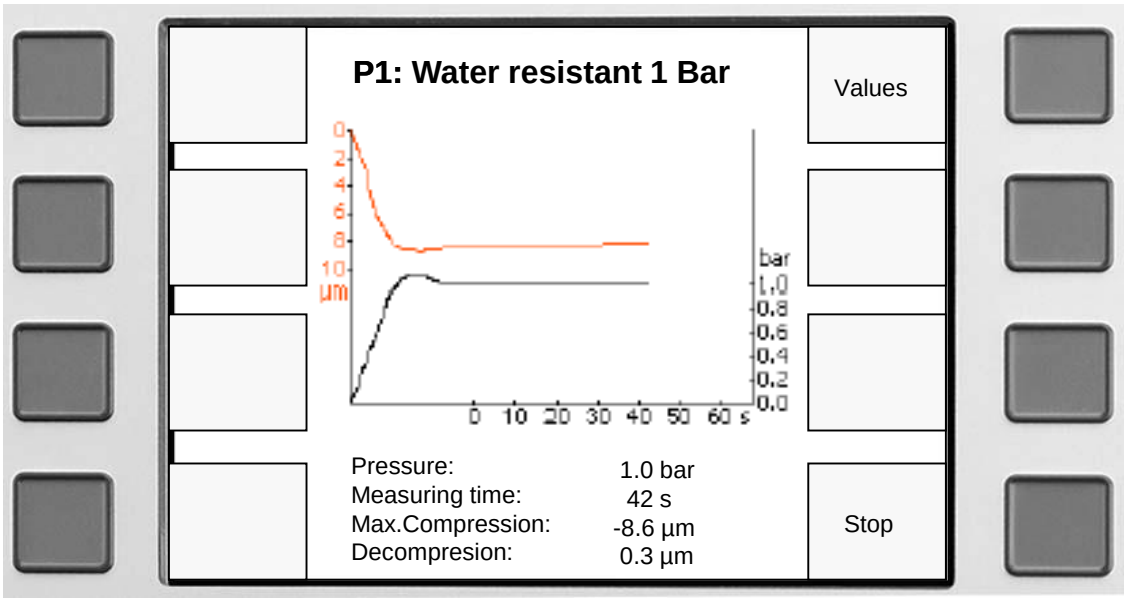


Press the Diagram key if you want to see the measured values graphically.

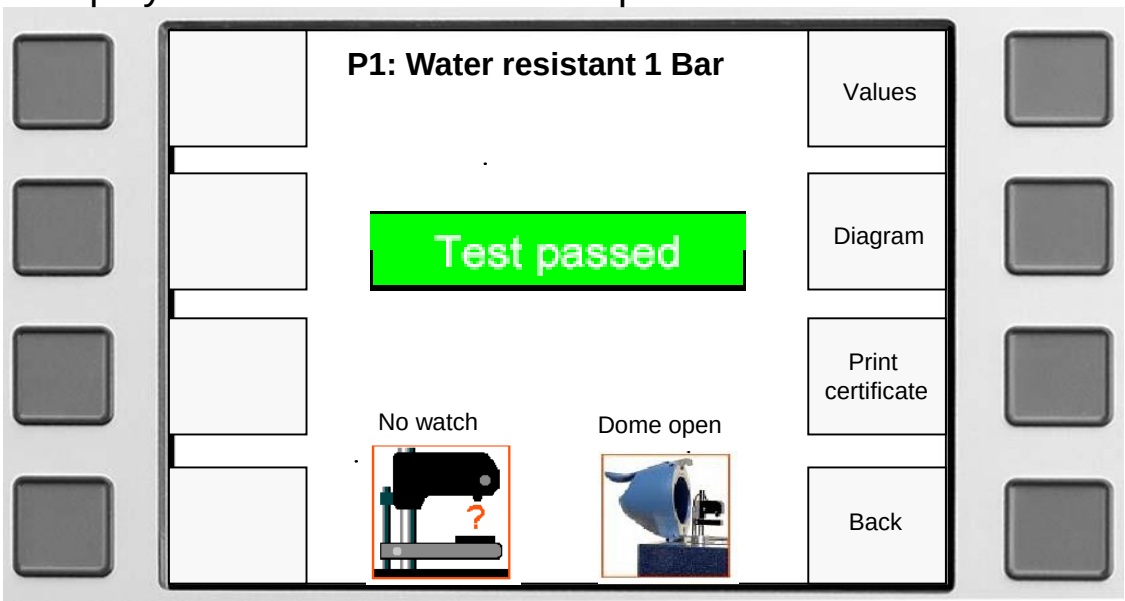
Display of Results

Example

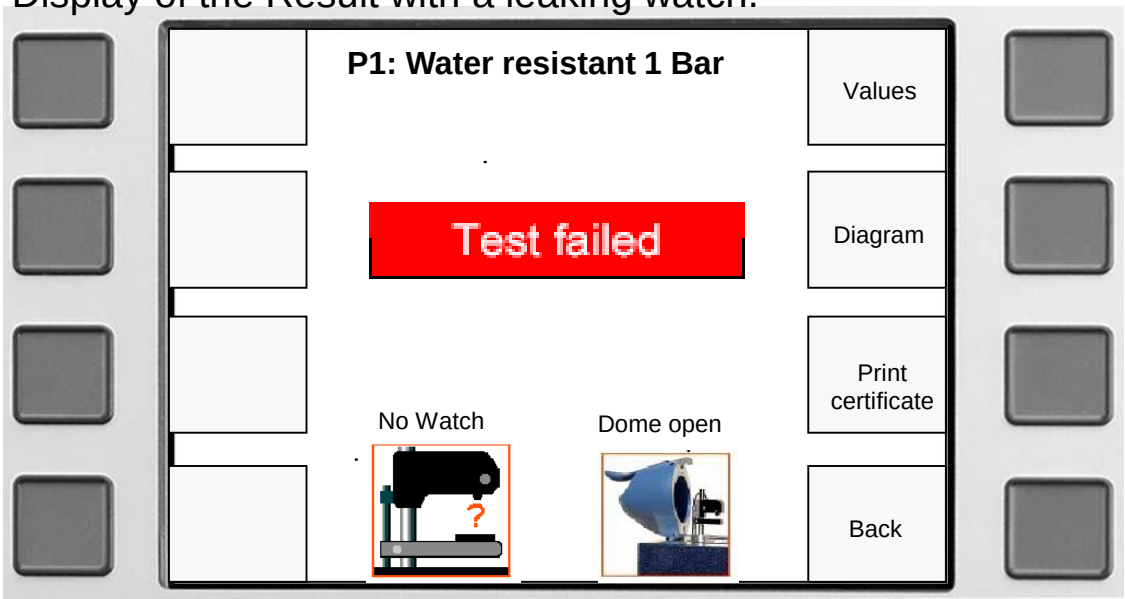
Display of the measured values as graphics



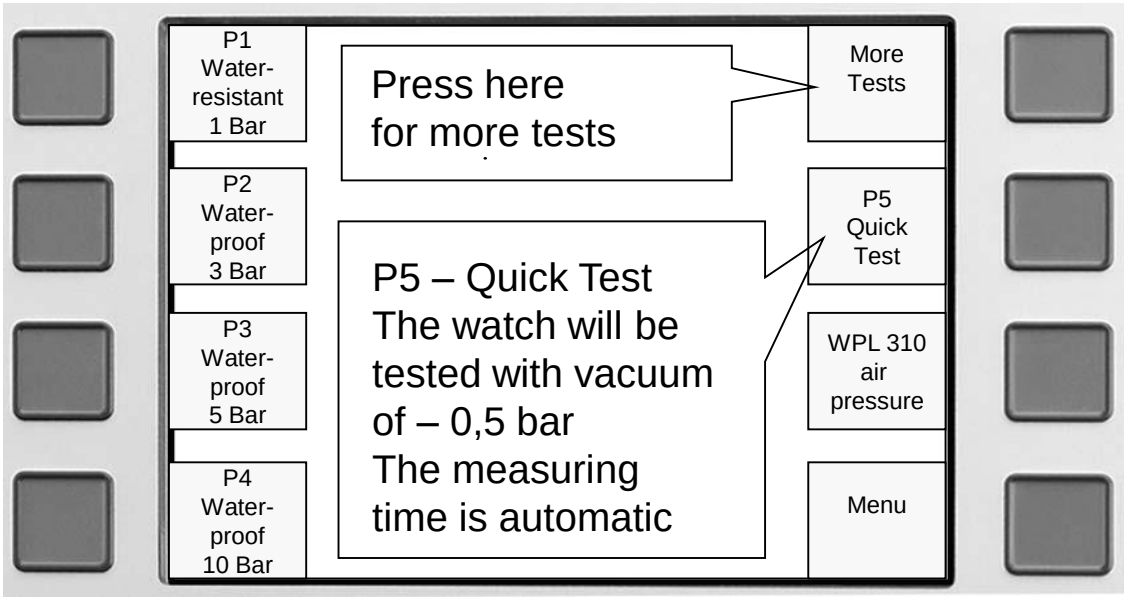
Display of the result with a water proof watch.



Display of the Result with a leaking watch.



Functions of the Programmed Tests P1, P2, P3, P4 and (Quick Test)



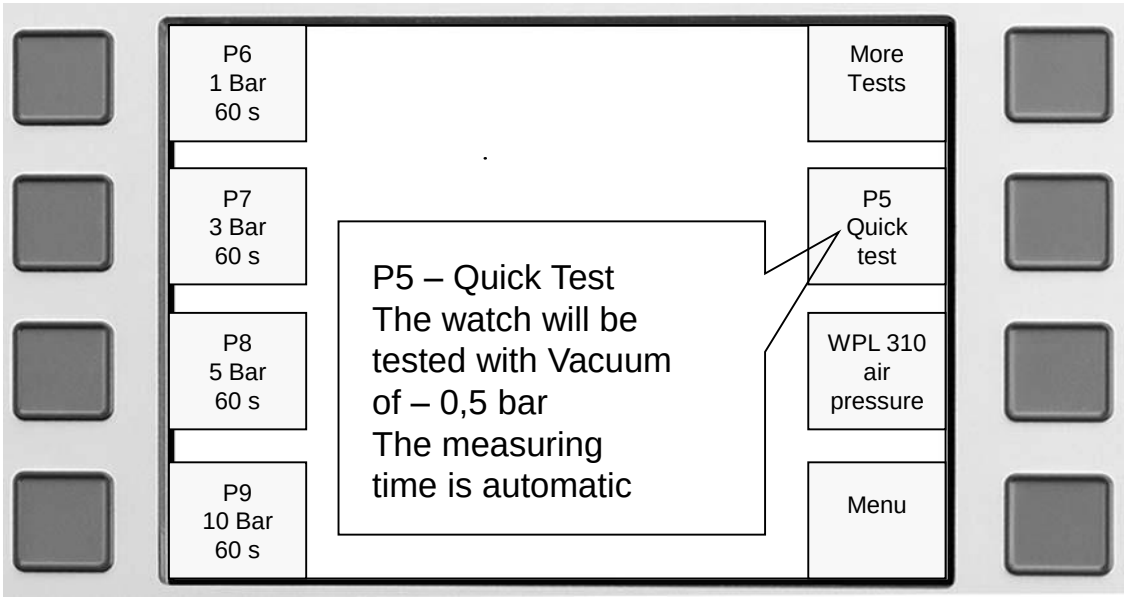
P1 = Vacuum - 0,5 bar / Pressure = 1,0 bar / Time = automatic.
P2 = Vacuum - 0,7 bar / Pressure = 3,0 bar / Time = automatic.
P3 = Vacuum - 0,7 bar / Pressure = 5,0 bar / Time = automatic.
P4 = Vacuum - 0,7 bar / Pressure = 10,0 bar / Time = automatic.

Test Procedure for P1 – P4

The watch is first tested under vacuum. The required measuring time for a precise conclusion is programmed for automatic. It is determined automatically by the device through the behavior of the watch during the measurement.
If the watch does not pass this test, the test under pressure will not be performed and the result is « Test 1 not passed ».

If the watch has passed the test under vacuum, the result is « Test 1 passed ». The test under pressure will then follow automatically. The test is started only after the housing of the watch has stabilized, which means when the housing has regained its original form.
The required measuring time for a precise conclusion is programmed for automatic. It is determined automatically by the device through the behavior of the watch during measurement.
If the watch does not pass this test, the result is « Test not passed ». If the watch passes this test, the result is « Test passed ».

Functions of the Programmed Tests
P6, P7, P8, P9



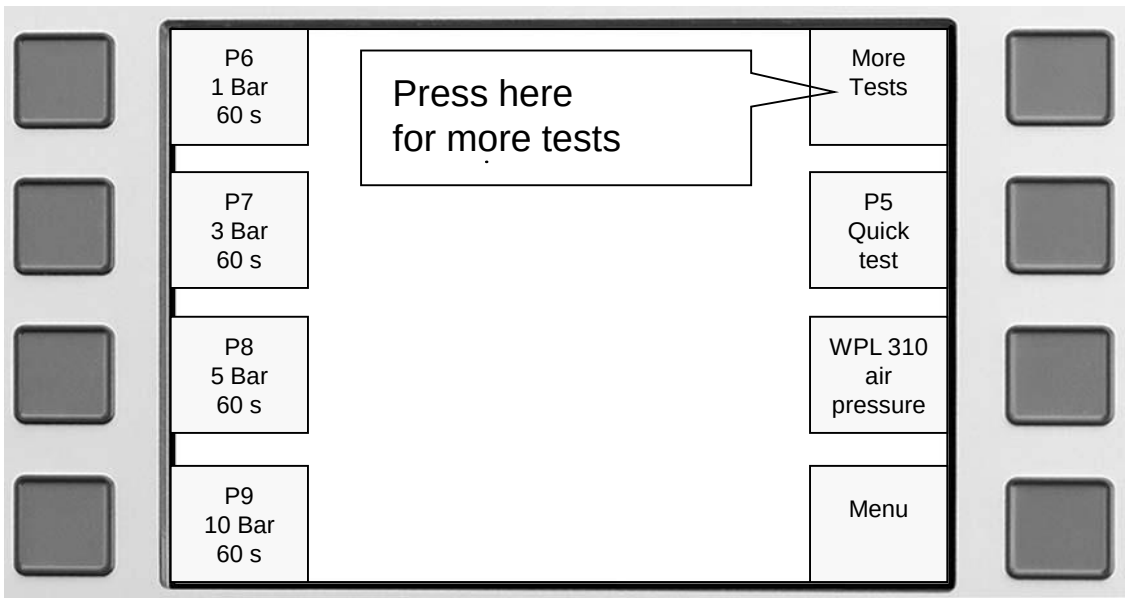
P6 = Pressure = 1,0 bar / Measuring time = 60 seconds
P7 = Pressure = 3,0 bar / Measuring time = 60 seconds
P8 = Pressure = 5,0 bar / Measuring time = 60 seconds
P9 = Pressure = 10,0 bar / Measuring time = 60 seconds

Test procedure for P6-P9

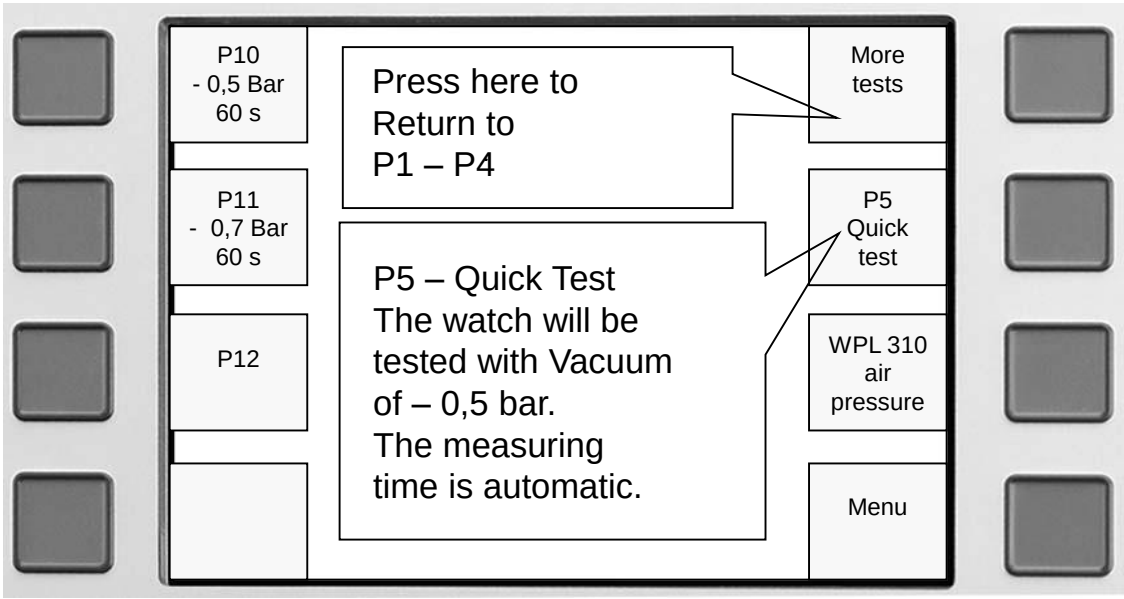
The watch is tested with the vacuum displayed. The measuring time is programmed for 60 seconds.

If the watch does not pass this test, the result is « Test not passed ».

If the watch passes this test, the result is « Test passed ».



Test procedure of the Programmed Tests P10, P11, P12



P10 = Vacuum – 0,5 bar / Measuring time = 60 seconds
P11 = Vacuum – 0,7 bar / Measuring time = 60 seconds
P12 = Not programmed

Test procedure for P10 + P11
The watch is tested with the vacuum displayed. The measuring time is programmed for 60 seconds. If the watch does not pass this test, the result is « Test not passed ».. If the watch passes this test, the result is « Test passed ».

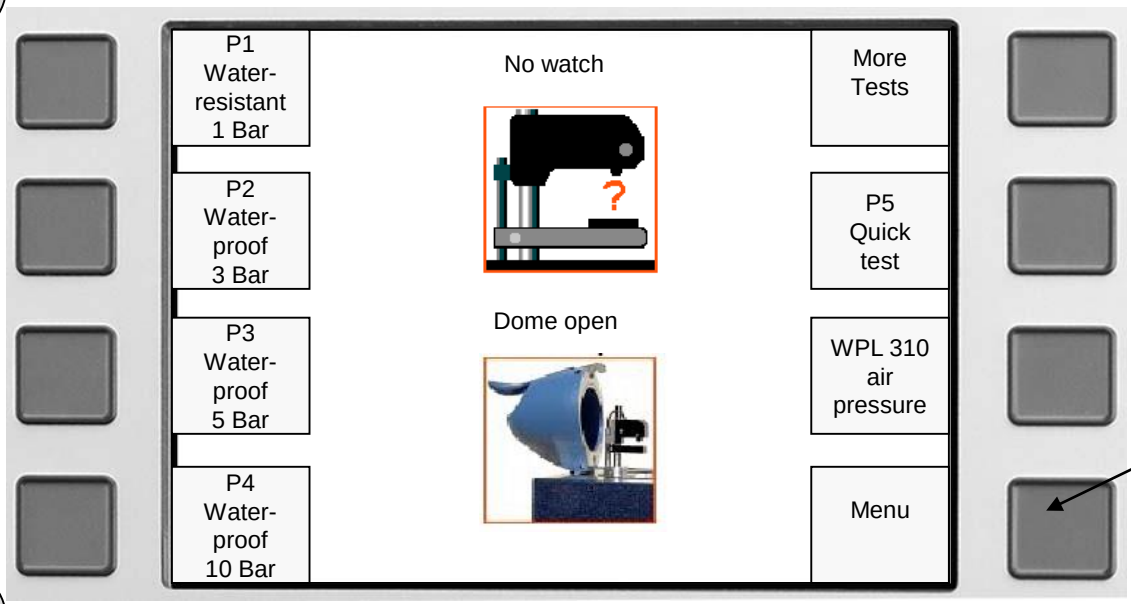
Prepare your own test programs
Read how you can prepare your own test program on page 15 and how you can give your test program its own name on page 16.

If you again want to install the test values pre-programmed by the factory, proceed as follows:

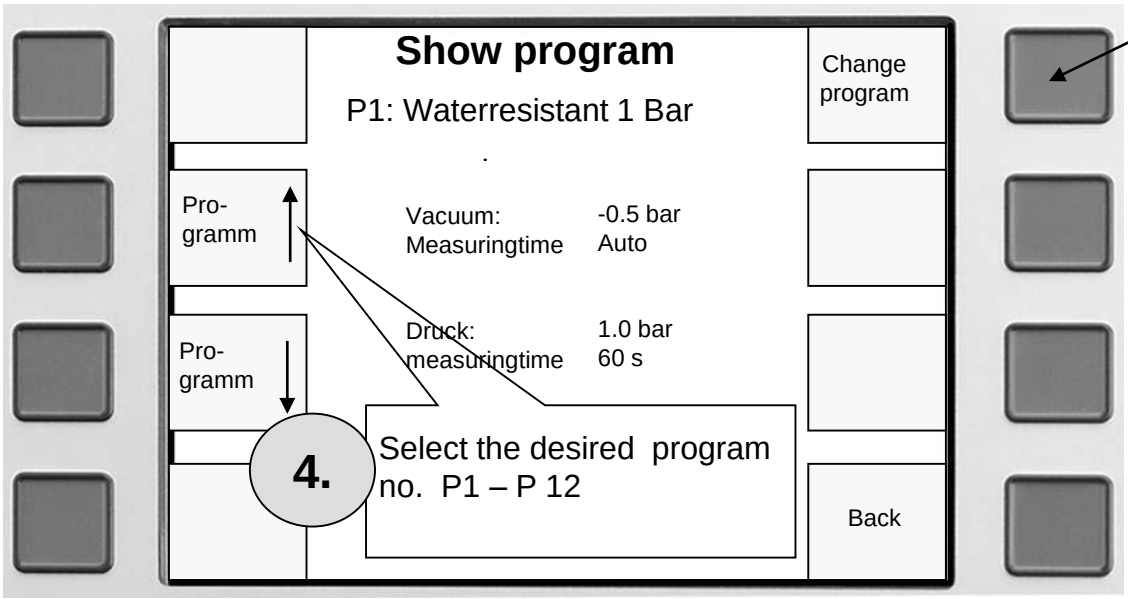
- Press **(Menu)**, then **(Change program)**
- Press **(Change program)** again
- Select the desired Programm.
- Now press **(Factory settings)** and **(Save).**
- The original values are installed again.

Change Program

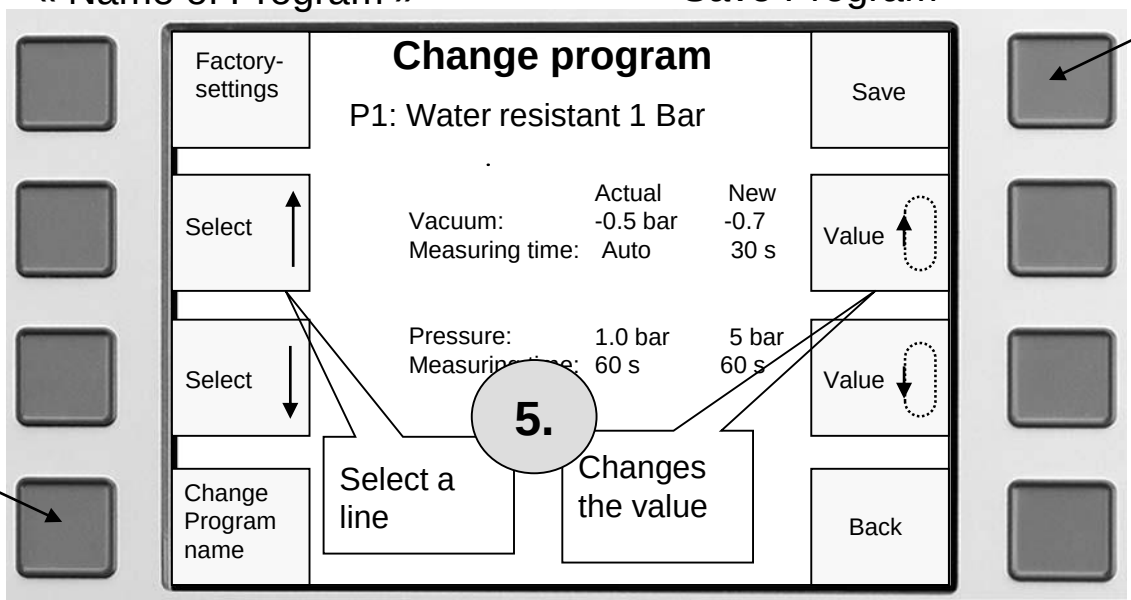
1. → Press « Menu »



2. → Press « System » 3. « Change Program »

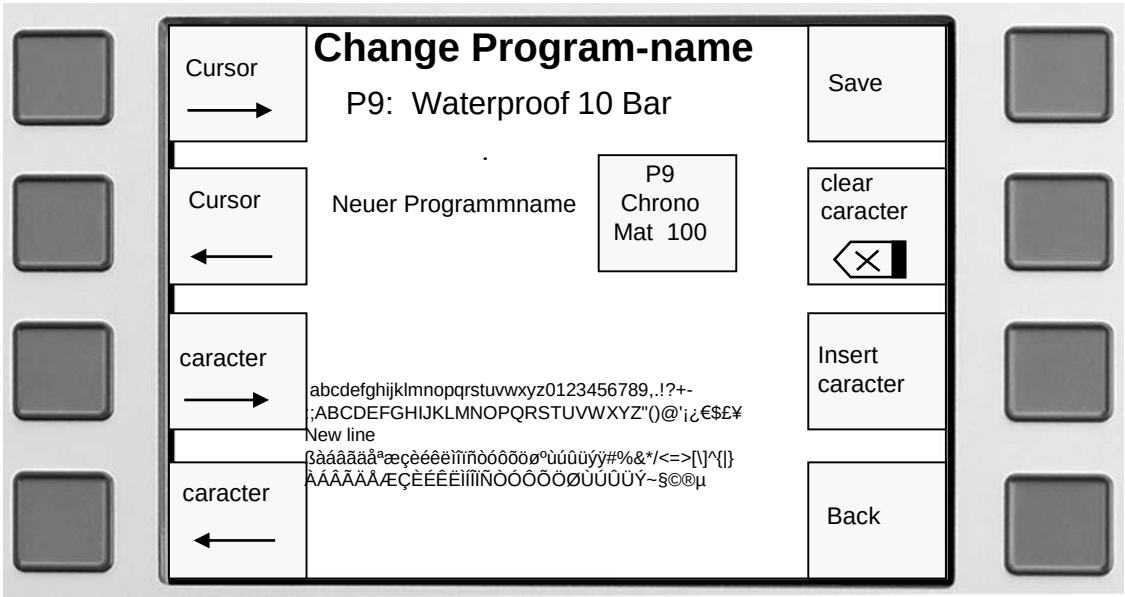


« Name of Program » « Save Program »



Change Program Name

You can prepare your own test programs and provide these programs with their own names.



How to proceed:

Use the « **Cursor** » to move to the desired position. right or left.

P 9
Chrono
Mat 100

Use « **Character** » to move to the desired character. Right or left.

abcdefghijklmnopqrstuvwxyz0123456789,.!?+-
:;ABCDEFGHIJKLMNOPQRSTUVWXYZ"()@'¡¿€$£¥
New line
ßàáâãäåªæçèéêëìíîïñòóôõöøºùúûüýÿ#%&*/<=>[\]^{|}
ÀÁÂÃÄÅÆÇÈÉÊËÌÍÎÏÑÒÓÔÕÖØÙÚÛÜÝ~§©®µ

Use « **Delete character** » to delete the character to the left of the cursor. In this case, it is the **9.**

P 9 ←
Chrono
Mat 100

Use « **Insert character** » to free 1 place to the left of the cursor for a character.
In this case, it is to the left of **n.**

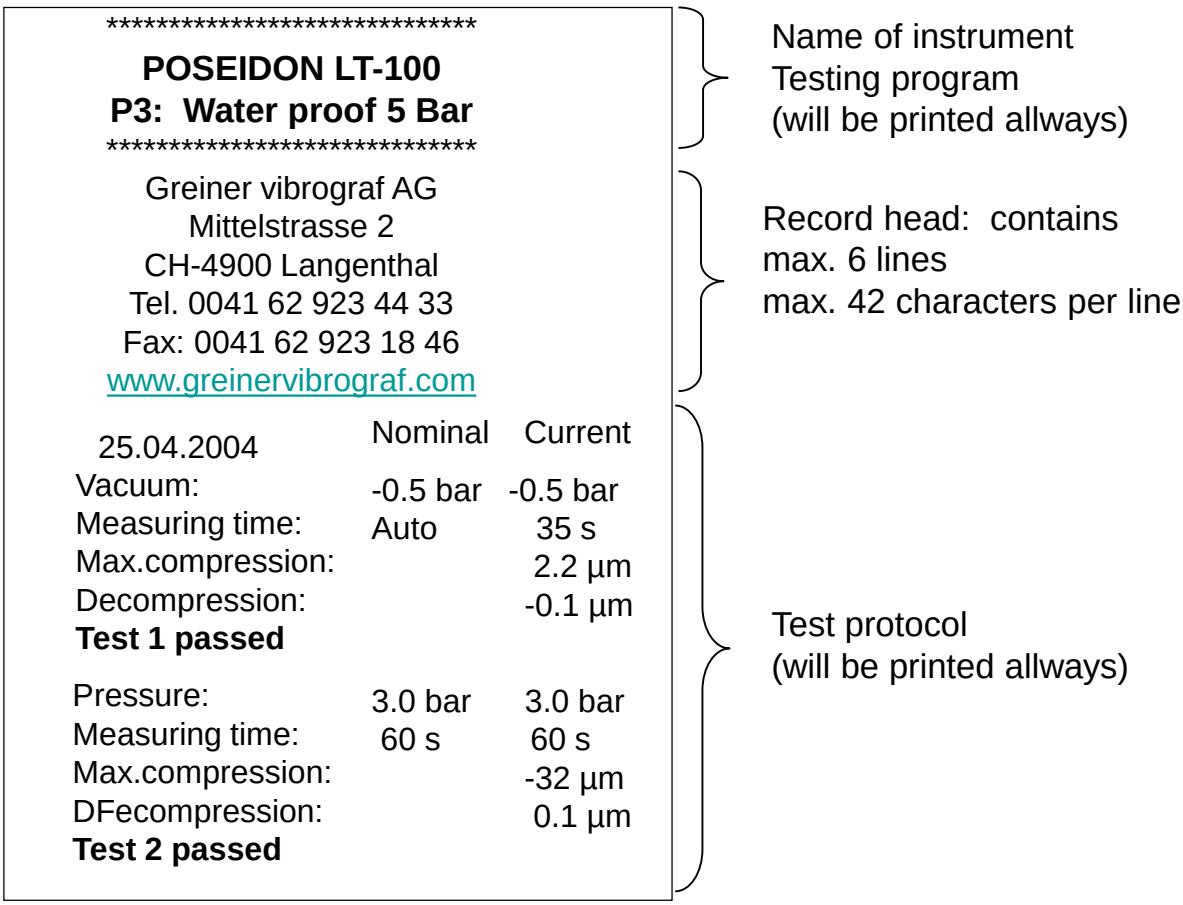
P 9
Chrono
Mat 100

Use « **Save** » to save the program name.

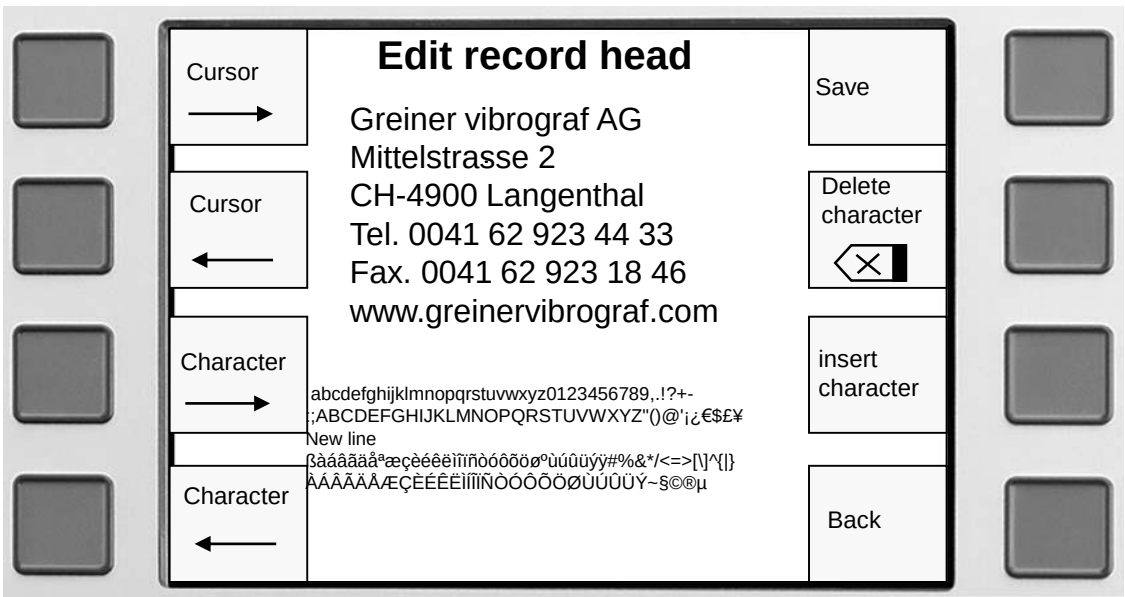
P 9
Chrono
Mat 100

Edit Record Head for Printout

A record of the measurement can be printed out after every measurement, if required. The record (Certificate) is structured as follows.



To input the text in the measurement record head, proceed in the same way as to change the program name (see page 16).



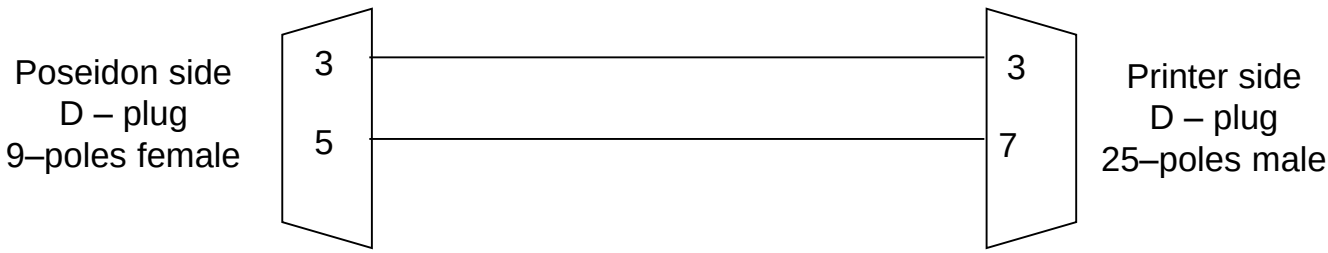
Printer Configuration

The link cable contains on o side a D-plug 9 pins (female) and on the othe end a D-plug 25 pins (male).

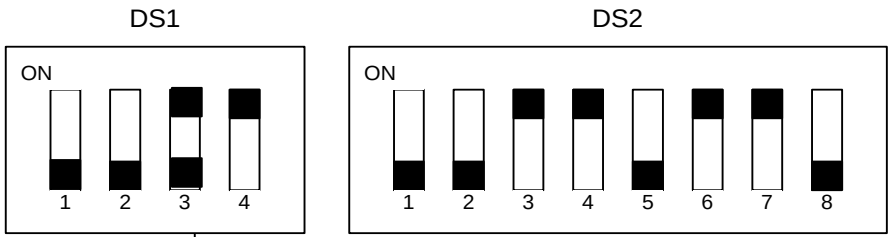
Link cable between Poseidon and Printer
Typ: D-SUB 9/25
DB9 female / DB25 male / 1.8m

RS-232, asynchron
9600 Baud
8 Datenbits
Parity None

Following connections must exist as a minimum.



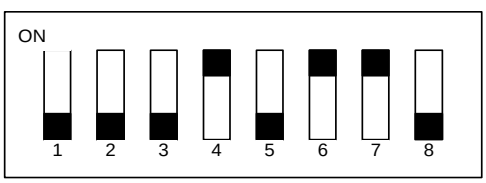
Citizen idp 460



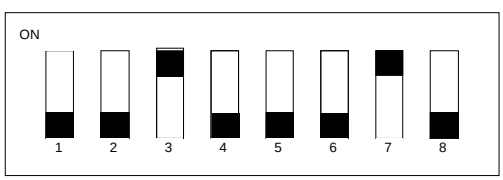
If the characters look like this,

change the position of the micro switch.
Normally leave it in the position as delivered.

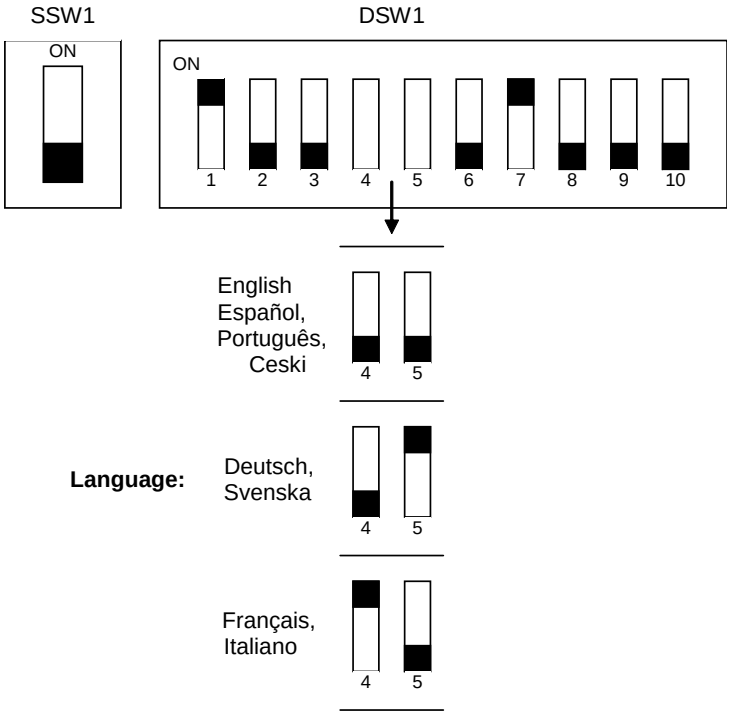
Citizen CBM-910



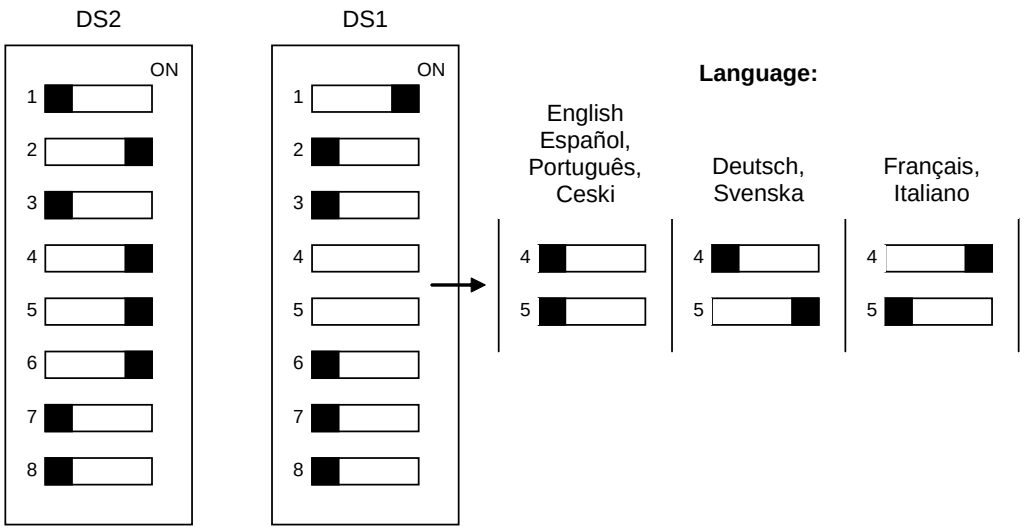
Citizen CBM-910 II



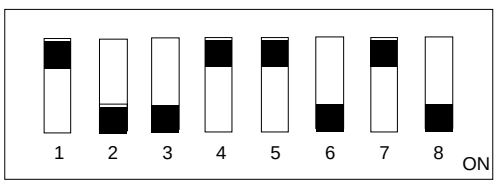
Citizen iDP-562



Citizen iDP-3535



Citizen CT-S280



Adjustment of the Setting Ring

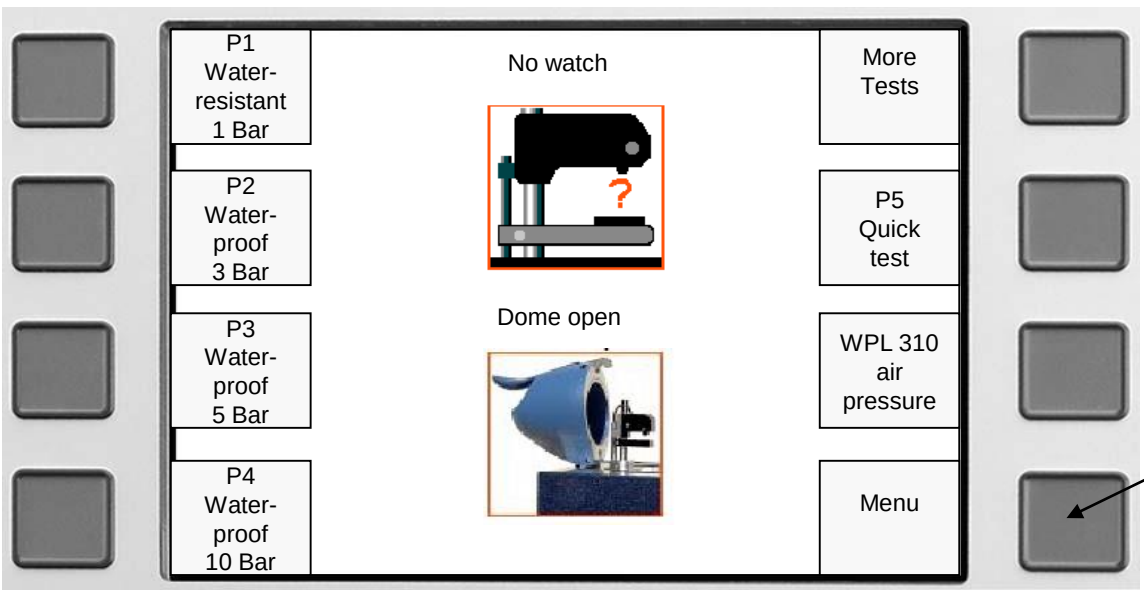
When lowering the measurement head onto the watch,
press the plate against the measuring head.
As a result, the setting ring moves downwards and limits the lowering of the measuring head onto the watch.
When the plate is released, the measuring head is blocked in the position and the setting ring goes upwards.
The sensor pin is now free on the watch. The green display lights up.

Press together the plate against the measuring head to move up or down.

The sensor pin is in the correct Range.

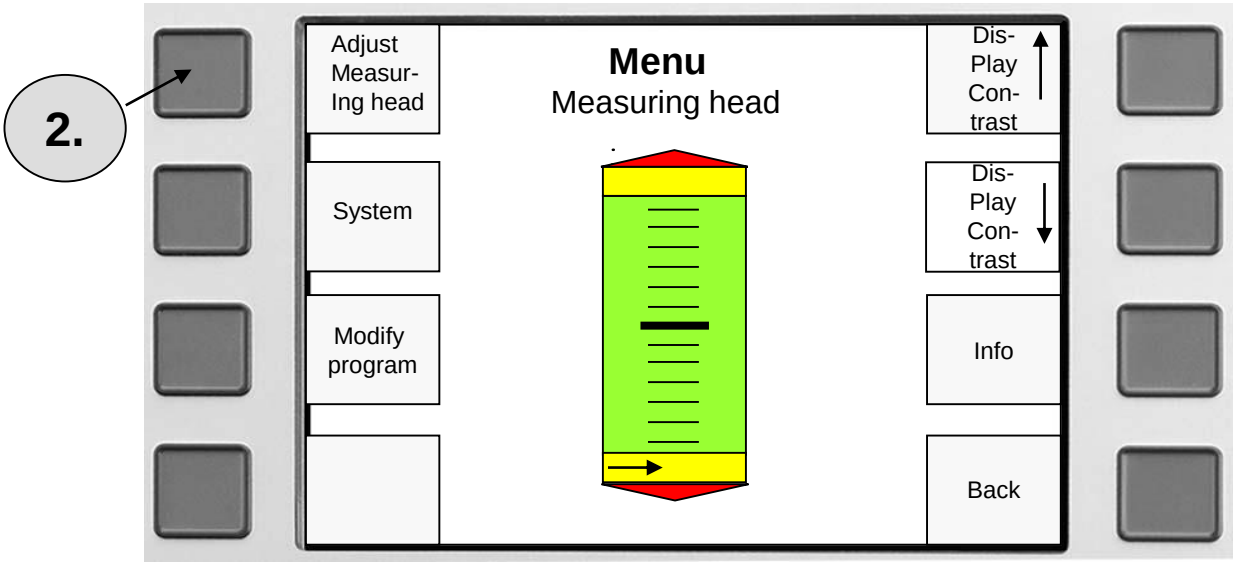
If one of the following pictures appears, you should correct the Setting ring.

For adjustment of the setting ring press:
« Menu » (see next page)

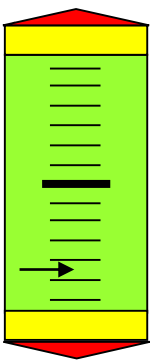


Adjustment of the Setting Ring

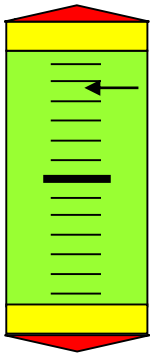
Press « Adjust measuring head »



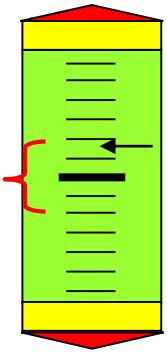
Arrow is below the middle, turn ring to the right.



Arrow is above the middle, turn ring to the left.

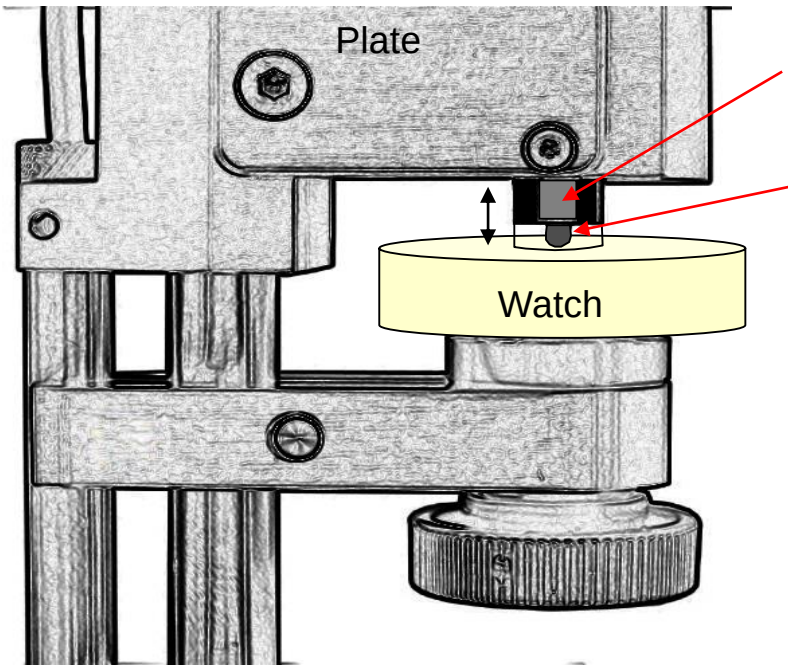


If arrow is In this area, => OK.



Adjustment of the Setting Ring

First drive the measuring head upwards. Turn the ring and put sensor again on the watch. Repeat this procedure until arrow is at the right position.



Setting Ring
Tool size
7 mm

Sensor pin

General

The deformation of the watch is measured continuously during a tightness test by the high precision mechanics, the high resolution state-of-the-art electronics and the intelligent software. This is done with an accuracy of less than 0.0001 mm.

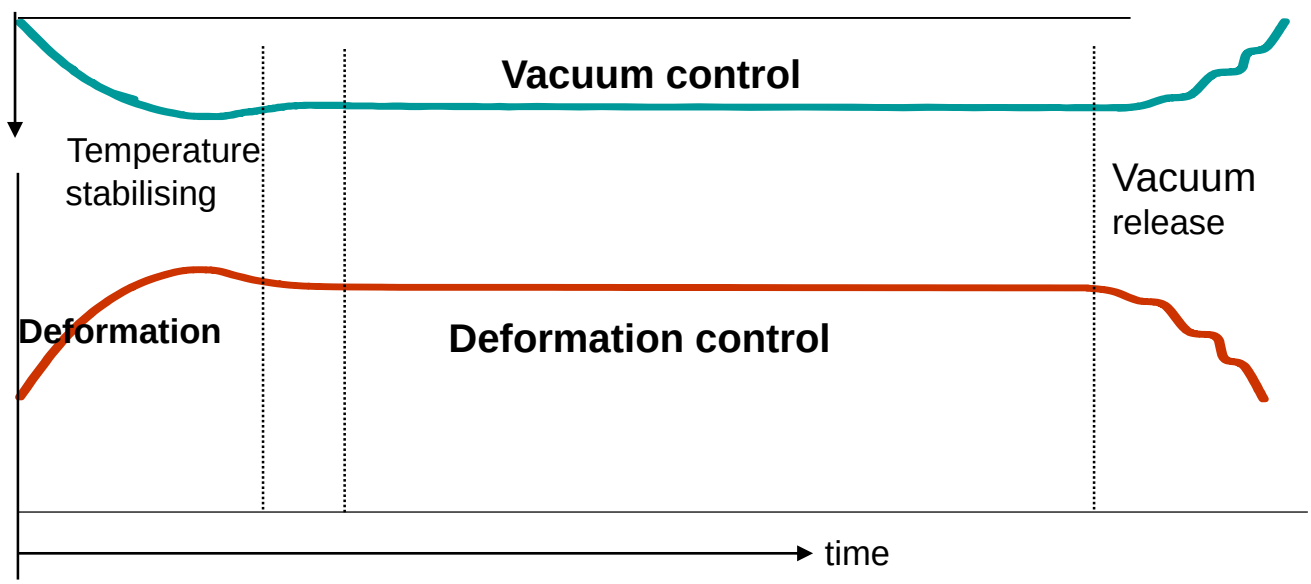
Tightness test under vacuum

A vacuum is established in the chamber up to -0.7 bar.
This means that the pressure in the sealed watch is greater than the ambient pressure. The watch expands outwards. This expansion (deformation) is measured continuously through the precise displacement sensor in the measuring head. The program, which is very extensive and is based on years of experience, will now decide independently

a) whether or not the watch was deformed sufficiently during the build-up of the vacuum.
b) the time after which the measurement can be ended (only if the measurement time is programmed on automatic).
c) whether the watch can be classified as tight or not tight.
d) that the vacuum is checked continuously during the measurement operation.

If the watch is found to be not tight during the vacuum test, the test with pressure will not be performed automatically.
If required, you can perform a new test under pressure.

Vacuum set up



Functioning of the Tightness Test under Pressure

General

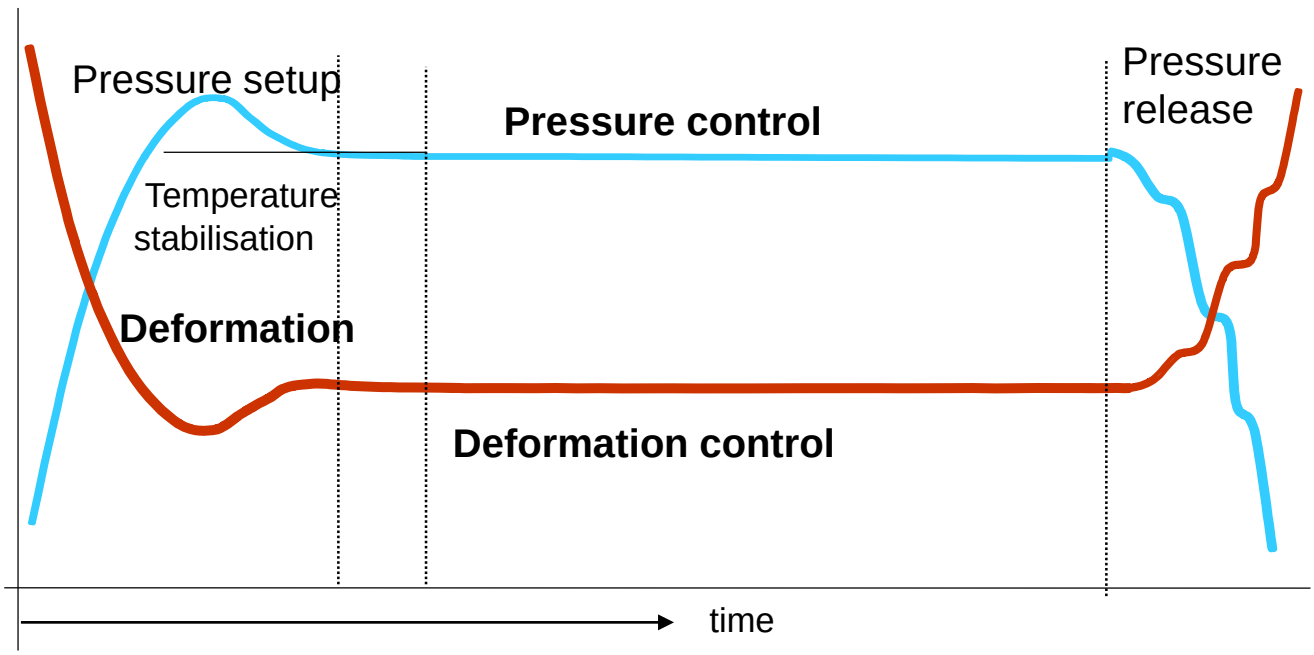
The deformation of the watch is measured continuously during a tightness test through the high precision mechanics, the high resolution state-of-the-art electronics and the intelligent software. This is done with an accuracy of less than 0.0001 µm.

Tightness Test Under Pressure

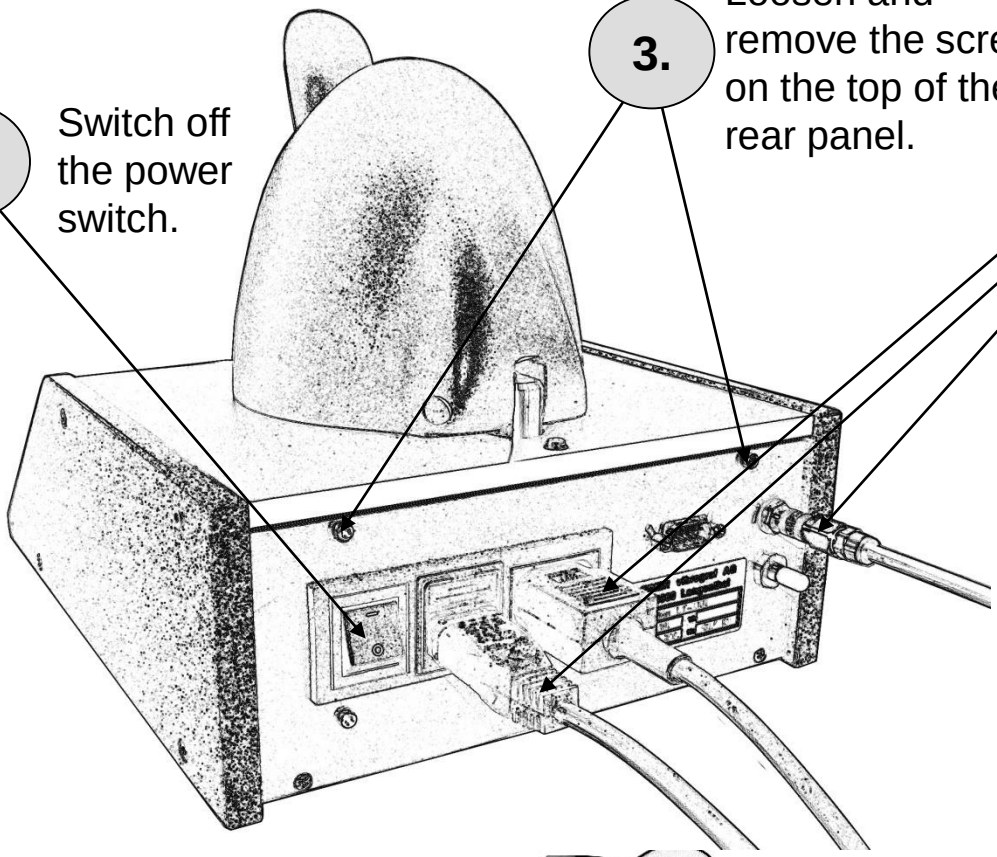
Pressure is established in the chamber up to + 10 bar.
This means that the pressure in the sealed watch is less than the ambient pressure. The watch is pressed together. This deformation is now measured continuously through the precise displacement sensor in the measuring head. The program, which is very extensive and is based on years of experience, will now decide independently

a) whether or not the watch was deformed sufficiently during the build up of the pressure.
b) the time after which the measurement can be ended (only if the measurement time is programmed on automatic).
c) whether or not the watch can be classified as tight or not tight.
d) That the chamber pressure is checked continuously during the measurement operation.

→ The pressure in the chamber is emptied in stages. If you want to change that, please contact customer service.



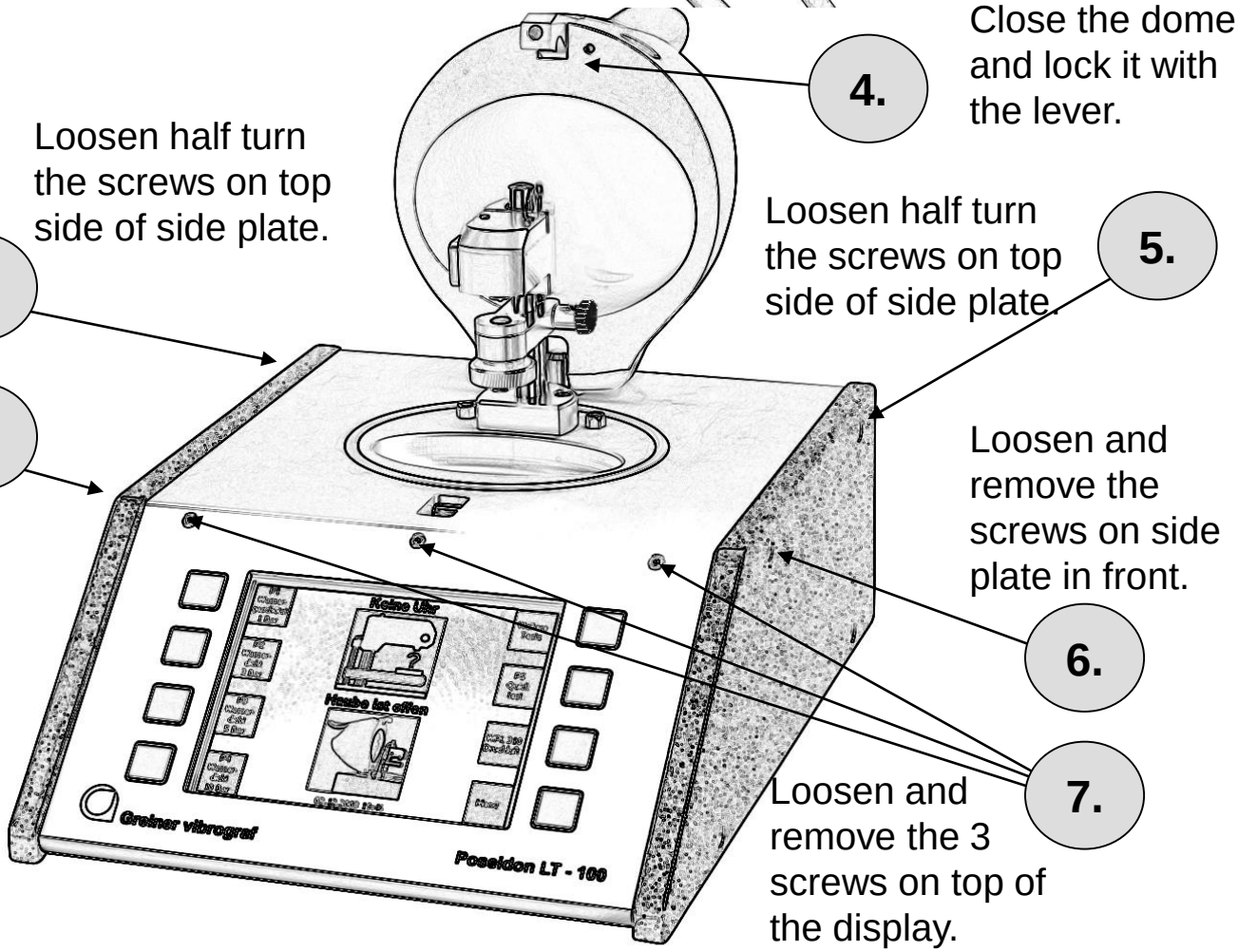
How to Open the Poseidon



1. Switch off the power switch.

2. Disconnect all the cables and the air pipe with the fast connection.

3. Loosen and remove the screws on the top of the rear panel.



4. Close the dome and lock it with the lever.

5. Loosen half turn the screws on top side of side plate.

5. Loosen half turn the screws on top side of side plate.

6. Loosen and remove the screws on side plate in front.

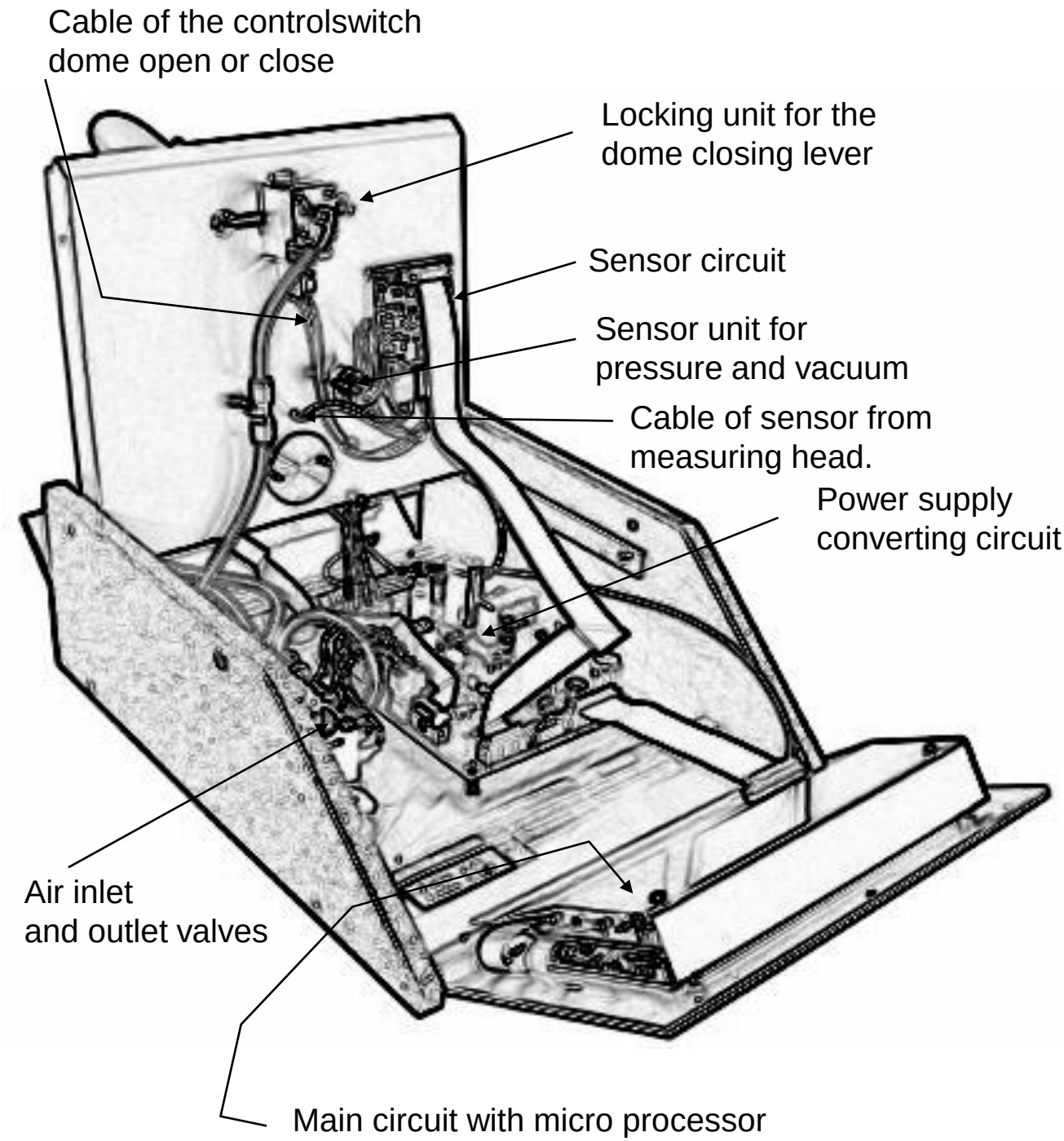
6.

7. Loosen and remove the 3 screws on top of the display.

Poseidon is now open like a flower

Important:
Before you turn the main plate in a vertical position, close the dome and lock it with the lever. Otherwise the backside of the dome will touch the rear plate of the instrument and it can remove a part of the painting.

If the Poseidon is opened like this, you have access of all modules.



General Information

Included in delivery:
- 3 m of air pressure hose Ø 4 – 6 mm with fitting G 1 / 8 for compressor.
- Power connector for compressor.
- User manual.

Maintenance:
For cleaning: use a cloth with a soft detergent.
Don‘t use a sharp cleaning solution.

From time to time, clean the sealing ring on the main plate and the surface byond the dome.
If necessary clean the keyboard and the display.

Conversion into in SI-units (International System of Units)
The adjustment and also the data on the screen are shown in the unit [bar].
Conversion into SI-units:
1 Bar = 100.000 Pa / - 0.7 bar = 7000 Pa

Important:

Please consider our specification for service unit on **page 3**.

CE Conformity

The Poseidon corresponds with the following CE directives and rules:

89/392/EWG	machinery
EN 292 – 1991	
89/336/EWG	EMV
EN 50082-2	disturbing security Industry
EN 55011-1991	disturbing emission
23/73/EWG	Low voltage directives
EN 61010 – 1993	Electrical security