1 STARTING THE SOFTWARE

The service software is started via the „METAdig“ icon.

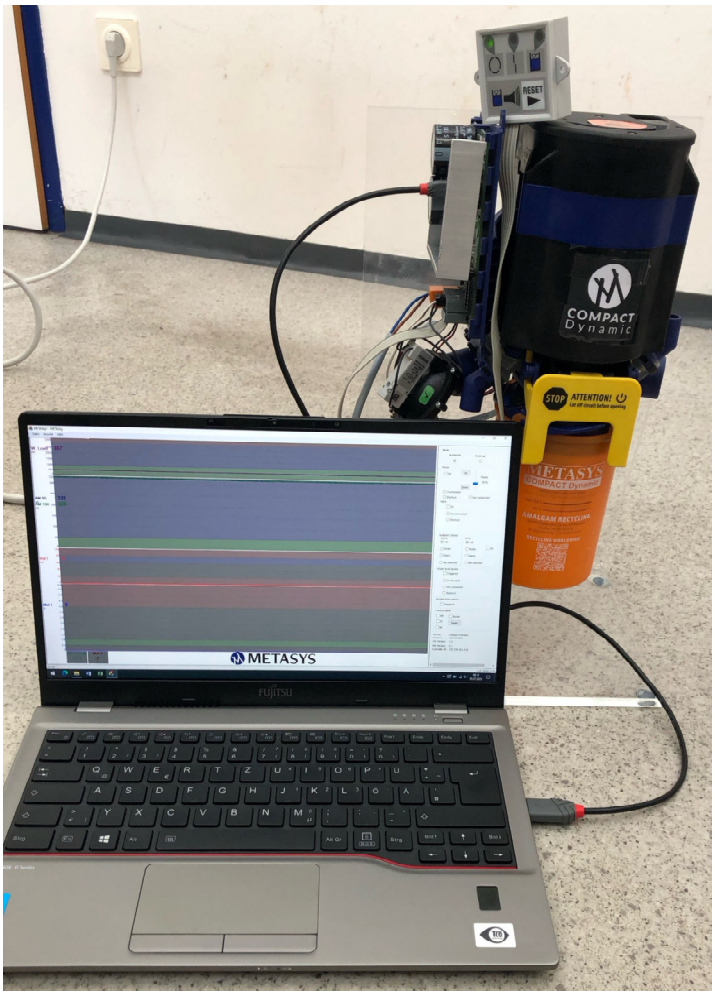
A grey screen appears.

2 CREATE A CONNECTION TO THE COMPACT DYNAMIC

A connection to the device can be established via a mini-USB cable, which is connected to the laptop and the COMPACT Dynamic main board.

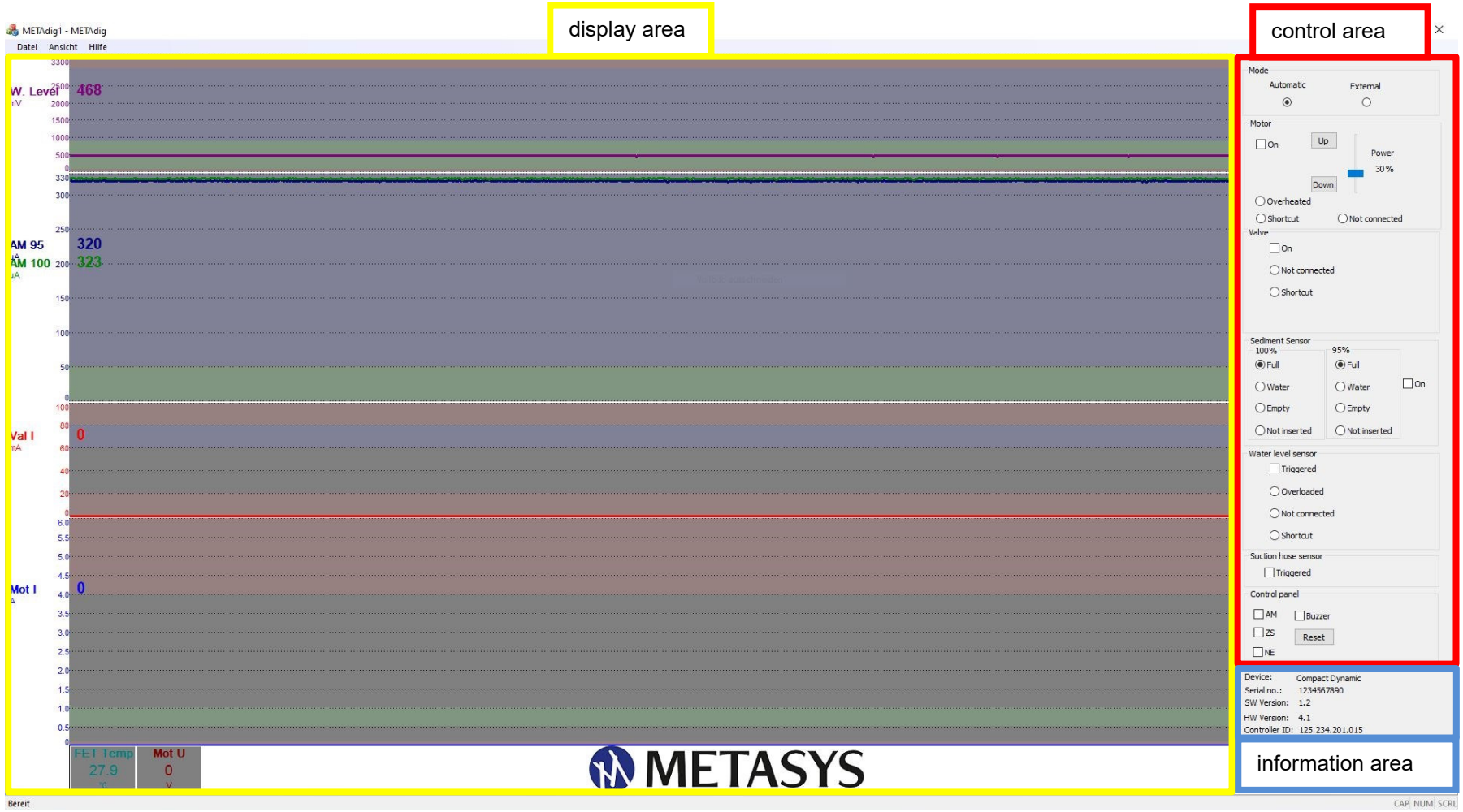
3 SWITCH ON THE DEVICE

As soon as the COMPACT Dynamic is switched on the "Service" view opens automatically and the COMPACT Dynamic starts with a short self-test (motor starts at low speed).



Now various functions can be tested.

4 DESCRIPTION OF THE SOFTWARE

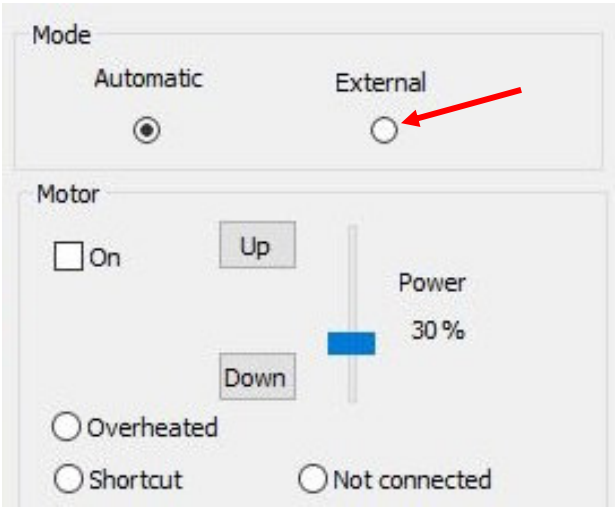


Legend:
W. Level [mV]…Water Level → Voltage display in mV of the capacitive sensor
AM 95 [uA]…Fill level Amalgam 95%
AM 100 [uA]…Fill level Amalgam 100%
Val I [mV]…Place selection valve → valve current in mV of the solenoid valve
Mot I [A]…Motor → actual motor current in A
FET Temp. [°C]…MOSFET Temperature → Temperature display of the transistors
Mot U [V]…Motor → actual motor voltage in V

5 FUNCTIONS

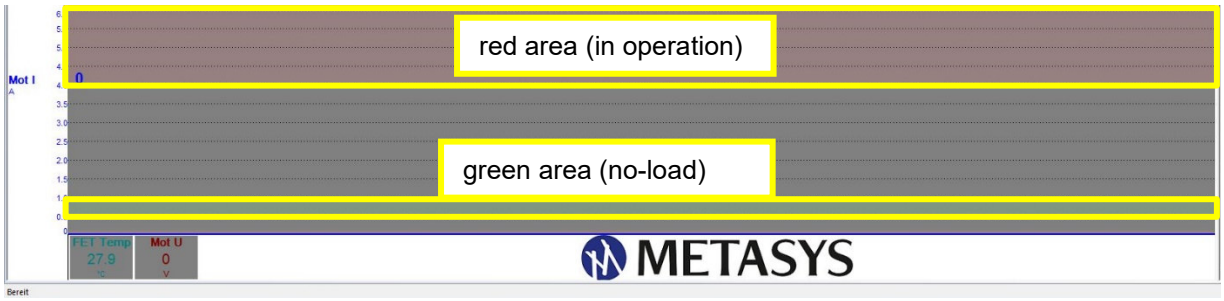
5.1 Function of the motor

In order to start checking the motor, the mode must be switched to „External“ in the control area:



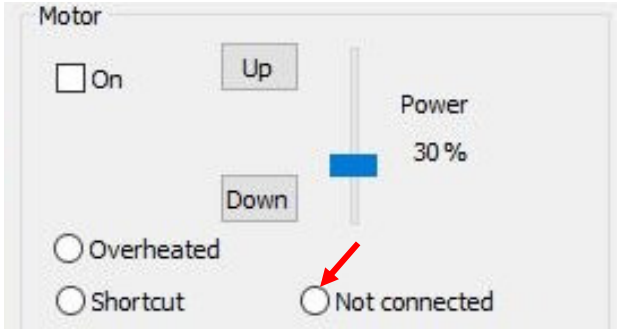
In the next step, the motor can be started by clicking "On" in the motor area. The motor now starts with 30% of the power. The power of the motor can be increased or decreased in 5% steps via the "Up" or "Down" buttons. To be able to check the correct no-load current, the motor voltage (Mot U) must be 24V. This value lies in a range between 60% and 65%. A fine adjustment of the motor power can be made via the controller. The motor voltage is displayed in volts in the lower part of the display area (Mot U):

Now the motor current at no-load can be observed in real time in the display area. The current should be in the green area (between 0.5A and 1.0A). By clicking "On" again, the motor stops immediately.



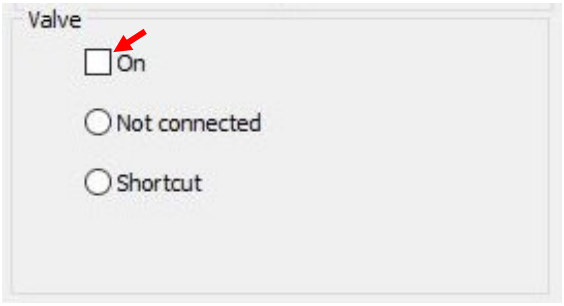
During normal operation (under load) the current should normally not increase above 4A. If the current in no-load operation is above the green area or in the red area (>4A) during normal operation, a service must be done on the module 2.

After finishing the motor test, the module 2 must be removed. By clicking „On“ again the item „Not connected” must light up:

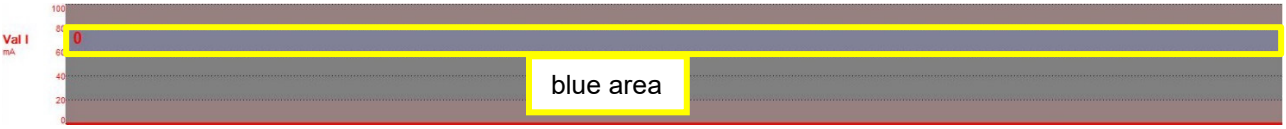


5.2 Function of the place selection valve

The next step is to test the place selection valve. Therefore you have to click „On“ in the valve domain of the control area.



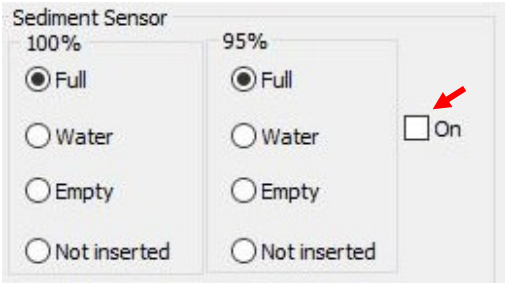
A click should now be heard at the valve and the valve current can be read in real time in the display area.



The valve current should be in the blue coloured area (between 60mA and 80mA). If the valve current is above the blue area (>80mA), the valve must be replaced. Click „On“ again to deactivate the valve.
If the valve is defective or not connected, either the "Shortcut" or "Not connected" item must light up.

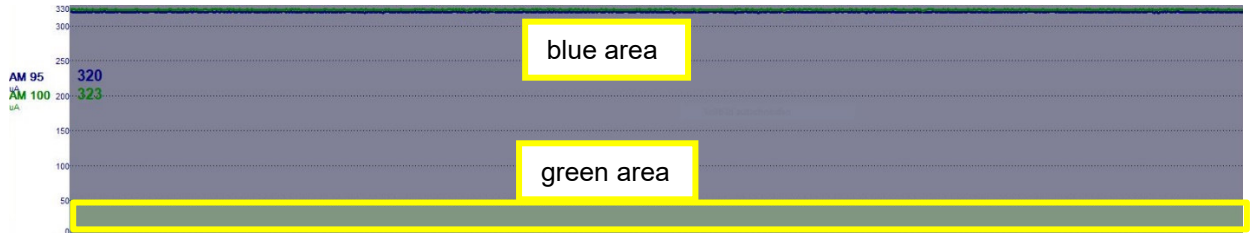
5.3 Function of Amalgam fill level sensors

To test the function of the Amalgam fill level sensors, the module 2 must be removed. The function can then be checked via the control area in the "Sediment Sensor" domain. Therefore you have to click „On“. As soon as this has been done, the "Water" and "Empty" items light up.



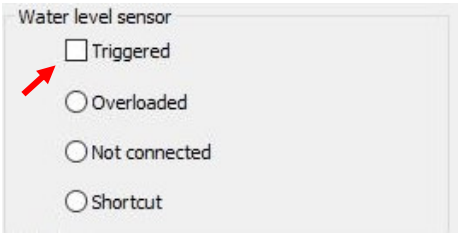
Now the lower light barrier (means 95% full) can then be covered with a screw driver or finger. Now "Full" must be displayed in the area of the 95% light barrier.
If the screw driver or finger is held over both light barriers, "Full" must be displayed for both the 95% light barrier and the 100% light barrier.

In the display area, the values must be in the green range when the light barriers are switched on. As soon as the 95% or 100% light barrier is covered, the values must move into the blue range. The optimum values are between 300 and 330 µA (uA).

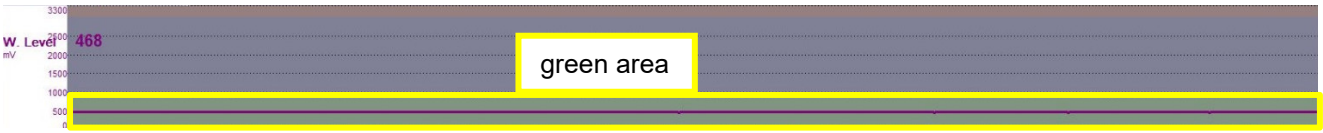


5.4 Function of capacitive sensor

To test the function of the capacitive sensor, the module 2 must be removed. The function can then be checked via the control area in the "Water level sensor" domain and in the display area.
Pressing lightly with a finger on the senor activates it. The item "Triggered" lights up in the control area and the value in the display area rises from the green to the blue range (>1000mV).

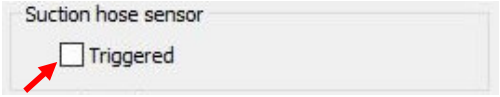


As soon as the finger is removed from the sensor again, the value jumps back into the green range (between 1mV and 1000mV).
If the sensor is defective or not connected, the "Shortcut" or "Not connected" item is displayed.



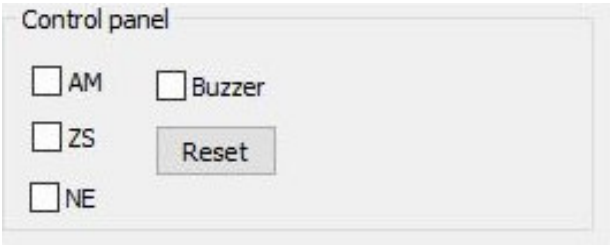
5.5 Function of starting signal

To test the function of the capacitive sensor, the module 2 can be removed from the wall bracket or also be remaining.
A suction hose can now be lifted off at the dental unit. The "Triggered" item must now light up in the "Suction hose sensor" domain of the control area. As soon as the suction hose is hung back in the hose holder, the "Triggered" item must no longer light up.



5.6 Function of the external display

The function of the external display can also be tested. For this purpose, the individual LEDs on the external display can be switched on and off via the control area in the "Control panel" domain. The signal tone can also be checked.



AM…LED filling level
ZS…LED centrifuge error
NE…LED main voltage
Buzzer…audible buzzer signal
Reset…Alarm reset button

By clicking on the individual LEDs, the selected LED is switched on at the external display and switched off again by clicking again.