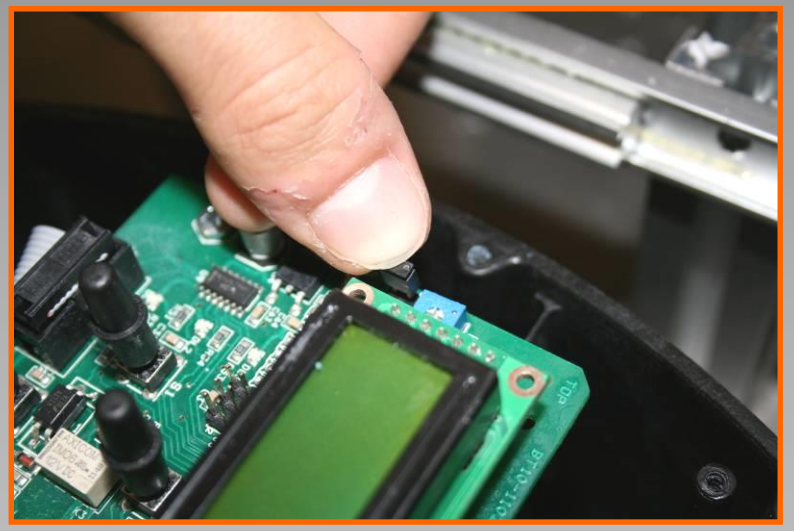
Brio Top - Sensors Calibration

The procedure is necessary each time that the board or the pressure sensor is replaced with a new one in order to calibrate the flow and pressure sensors drift and gain (these parameters are different for each sensor and are stored into the CPU of each board, so replacing one of the parts requires to make a new calibration).
If the calibration is not performed the Brio Top will show an incorrect pressure and will not stop the pump in absence of water flow.



01) After having installed the device into the testing machine, to enter “calibration mode” close the jumper located near the display of Brio Top (**power supply MUST be disconnected!).**



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02) With the jumper in CLOSED position give power to the Brio Top from the front panel.



03) Brio Top will turn ON showing on the LCD the “calibration menu” that usually is not visible during normal operation.

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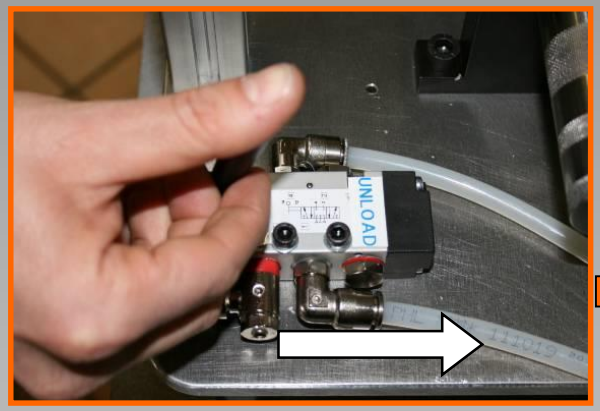
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- Calibration of PRESSURE SENSOR



04) When giving power supply to the equipment with the jumper closed in “calibration mode”, the first page appearing on the screen is the calibration of the pressure sensor at 0 Bar.

Make sure that the pressure is 0 Bar into the device by completely unloading the air with the pressurization lever before proceeding.





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05) **Only when the pressure is 0 Bar** on the pressure gauge please push the central button to confirm the calibration point at 0 Bar for the pressure sensor.







06) When pushing the central button, the device will automatically store the actual pressure signal as “0 Bar” into the Brio Top CPU memory. At the same time the page on the display will automatically change to next step, that is the calibration at 5Bar.

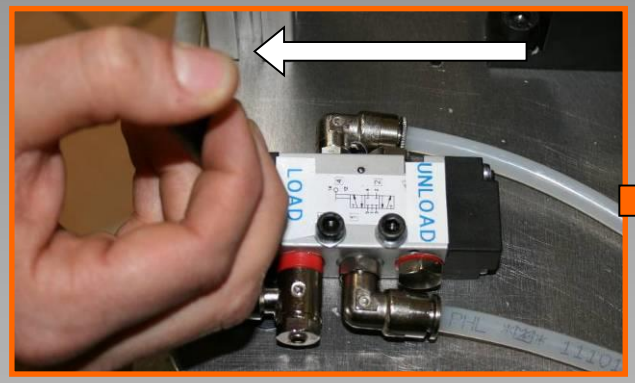
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07) Make sure that the pressure is 5.0 Bar into the device by loading the air with the pressurization lever before proceeding.

If necessary the pressure can be adjusted with the air-reducer knob.







NEXT

08) **Only when the pressure is 5.0 Bar** on the pressure gauge please push the central button to confirm the calibration point at 5.0 Bar for the pressure sensor.







09) When pushing the central button, the device will automatically store the actual pressure signal as “5.0 Bar” into the Brio Top CPU memory. At the same time the page on the display will automatically change to next step, that is the calibration on the Non Return Valve (NRV).

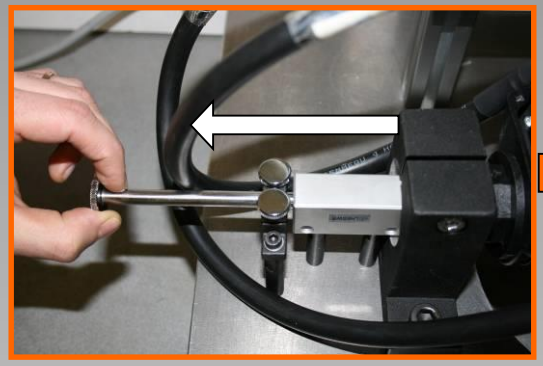
NEXT

- Calibration of FLOW SENSOR (NRV = Non Return Valve)



10) While Brio Top is showing “Calibration NRV, make sure that the pressure into the device is around 5.0 Bar ant the check-valve testing pin is completely back.

The check-valve must be completely closed before proceeding!

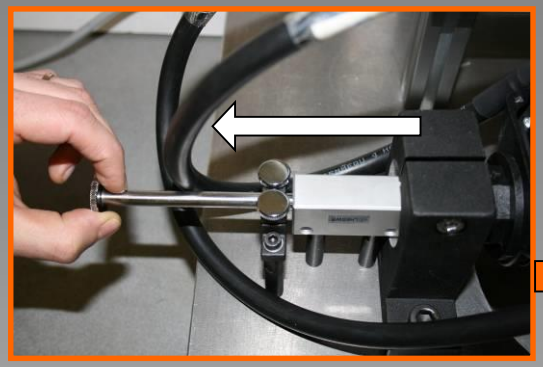




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11) **Only when the check valve is completely closed** please push the central button to confirm the calibration point of the valve in fully closed position.







12) When pushing the central button, the device will automatically store the actual signal from the flow sensor (when check valve is fully closed) into the Brio Top CPU memory. At the same time the page on the display will automatically change to next step, that is the verification of calibrations.

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- Verification of the calibrations

13) At the end of the calibration procedure, the device allows the verification of the correct functioning of the pressure sensor and flow sensor.



13) As first step, it's possible to check the correct functioning of the pressure sensor;

The device shows the actual pressure measured by the sensor and the value can be compared with the pressure gauge actual value.

With the pressure loading lever it's possible to change the pressure into Brio Top and to verify the correct measuring on the LCD display.









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14) After having checked the correct pressure measurement, please push the central button to proceed with the next inspection (testing of flow sensor).

15) The next screen will show the calibration point of the flow sensor with reference to the position of the check valve (opened or closed).

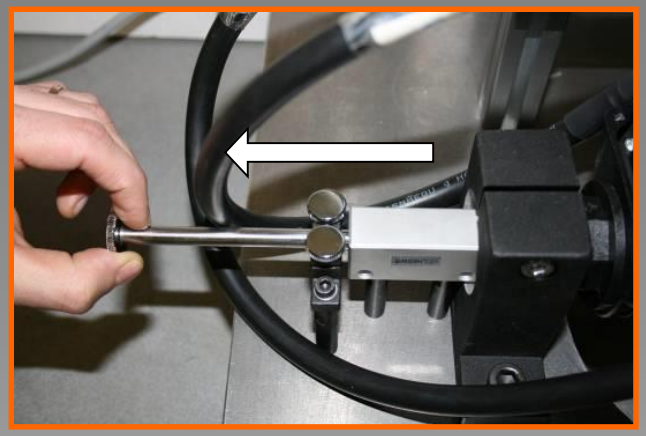


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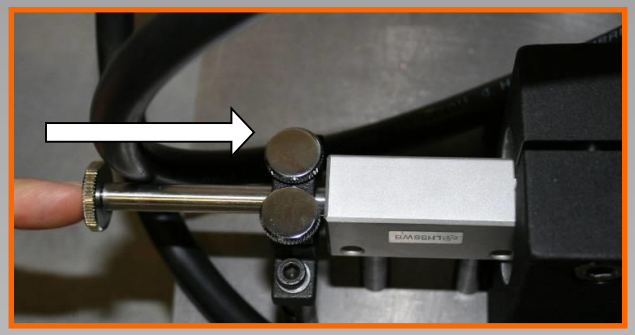
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16) With the non return valve completely closed (back), the calibration point must be within 0 and 2, as shown in the picture below:





17) While progressively opening the non return valve, the calibration point will increase up to around 50 to 60 when the valve is fully opened (maximum flow):





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18) To exit calibration mode, disconnect power supply and remove the jumper.

Re-assemble the plastic extensions over the buttons and the internal black cover.

At the end of the calibration it's suggested to carry-out the functioning inspection procedure.

END

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