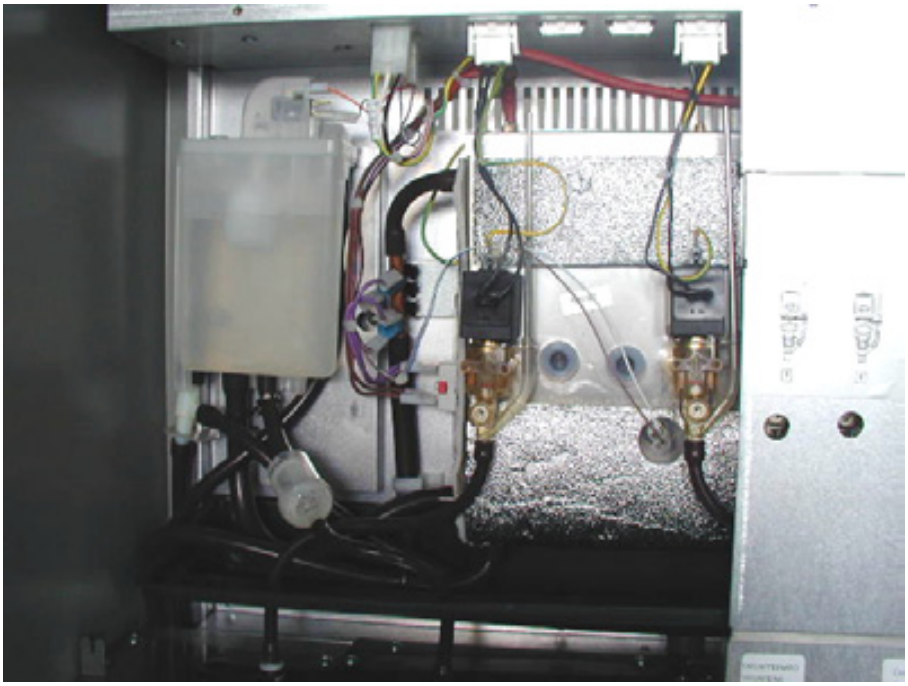
AFTER-SALES SERVICE **Functional Units H & C**



APPLICATION OF AIR-BREAK ON THE ZENITH BOILER

SERVICE MANUAL

AIR-BREAK UNIT

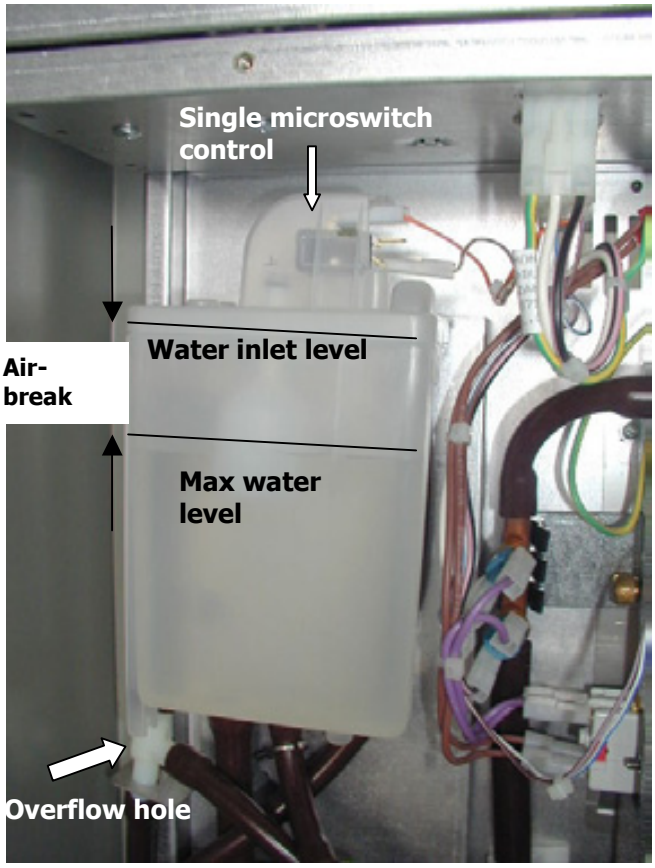
BASIC TECHNICAL MANUAL

THE CONTENTS OF THIS DOCUMENT ARE INTENDED FOR NECTA'S AFTER SALES PERSONNEL.

AIR-BREAK UNIT

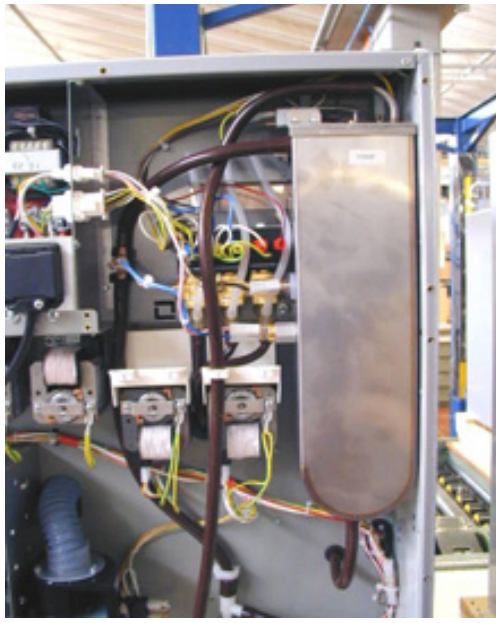
The air-break is a very important functional unit, having many functions:
it is used to keep a constant water level in the boiler, by being connected using the principle of communicating vessels, and having a warning for lack of water from the mains in the event of failure, and able to complete the current selection.
In addition, it serves the purpose of holding a reservoir of water at normal atmospheric pressure, so that the pump (espresso versions) can draw the correct water dose and deliver it to the espresso boiler without changes in pressure that may affect the accuracy of the volumetric counter.
The water level is ensured by a float that activates a microswitch (or pair of microswitches according to the application) when at the minimum level.
In the case of one microswitch only, this controls the max level and the min level is determined by the SW.
In the case of two microswitches, one controls the max level and the other the min level.
In the event of maintenance or replacement, the new microswitch must have the same characteristics; otherwise there could be differences in signals leading to various malfunctions.
In case of water control microswitch failure, there is an overflow hole that conveys the excess water to the water inlet solenoid valve, fitted with an overflow safety device.
To be noted that this system works also when there is no power.
The air-break also sends a signal to the machine board for initial installation with automatic filling of the hydraulic circuit, including the air-break and the boiler.
The initial control is done as follows:
if when the machine is switched on the float is not activated, the installation routine is started, and if the microswitch is not triggered after a certain number of seconds (e.g. 60), the machine is locked for lack of water.
The last but not least function is that of **"air-break"** between the mains water and the water inside the air-break unit to prevent any possible bacteria contamination to the water grid.
Such ***"air-break"*** is intended as breaking the water continuity between the grid and the water collection tank, and is achieved through a level difference of approximately 30 mm between the water inlet and the upper level in the tank.

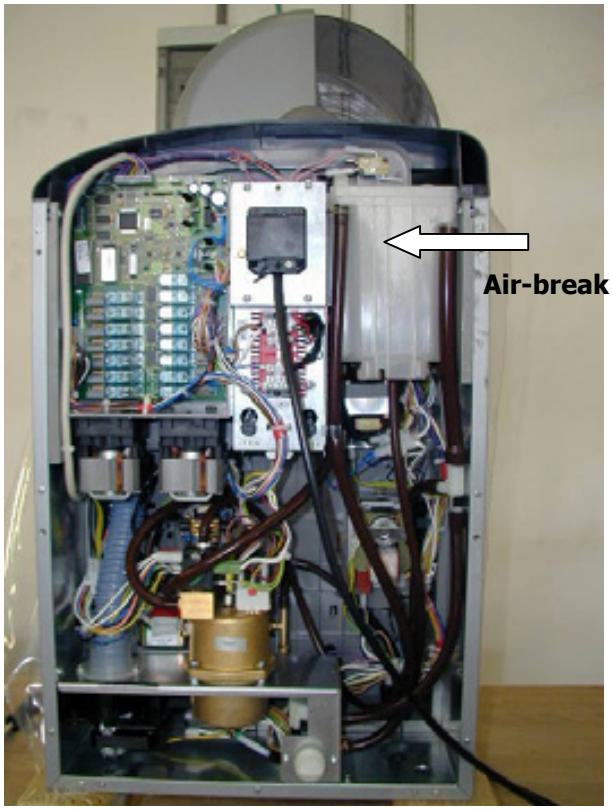
Air-break: application on the Zenith



Air-break: application on the Spazio

In certain applications, and more specifically in the applications where there is no espresso boiler, "open-top" boilers with an air-break incorporated are used.
The level control system is identical to the one with a separate air-break, but the float is made of material not sensitive to heat and the microswitch is reinforced with material that is resistant to heat.
See example, on this page, of application on the Brio fitted with open-top boiler and an air-break incorporated.





Application of air-break on the Colibrì

DISASSEMBLY INSTRUCTIONS FOR CLEANING AND HYGIENE

On a regular basis, and especially after a period of not being used, after holidays etc., the machine must be thoroughly cleaned and made hygienic.
More specifically, if softener systems with ion-exchange resins are used, cleaning and hygiene must be carried out at least once a week.
All tubing and the inside must be rinsed with chlorine-based detergents and softener filters must be regenerated every week, regardless of the residual softener capacity, because any bacteria present in the filters find an ideal environment to grow, therefore from the filter it can get to the air-break and contaminate the vending machine.
Note: Anyway the water temperature is raised by the boiler, therefore the dispensed product is sterile, however downstream from the boiler the circuit can be contaminated excessively.
With this kind of maintenance, the provisions of the HACCP directive are met.