



Ginolis Cuvette Sealer

Introduction

Ginolis has developed a compact size semiautomatic Cuvette Sealer. It is an assembly cell to place and heat-bond aluminium foil to cuvettes. The sealer adjusts the foil on top of cuvettes, presses and heats the foil and finally separates cuvettes from each other by cutting.

The process ensures that the reagents dispensed into the cuvettes prior to bonding are kept in a secure, enclosed environment to enable accurate testing and reliable data.



Picture 1. Ginolis Cuvette Sealer

The Solution Setup

The Cuvette Sealer assembly cell is a chain driven machine that first places, adjusts and heat seals the foil onto the cuvettes and then separates the individual units from each other.

The force of the press can be adjusted by adjusting the pressure of compressed air. Adjustment is done via the user interface. The heat temperature can be adjusted as well as heating time.

Through the longer vertical opening at the bottom of the holder, it can be checked that there is reagents in the cuvettes.

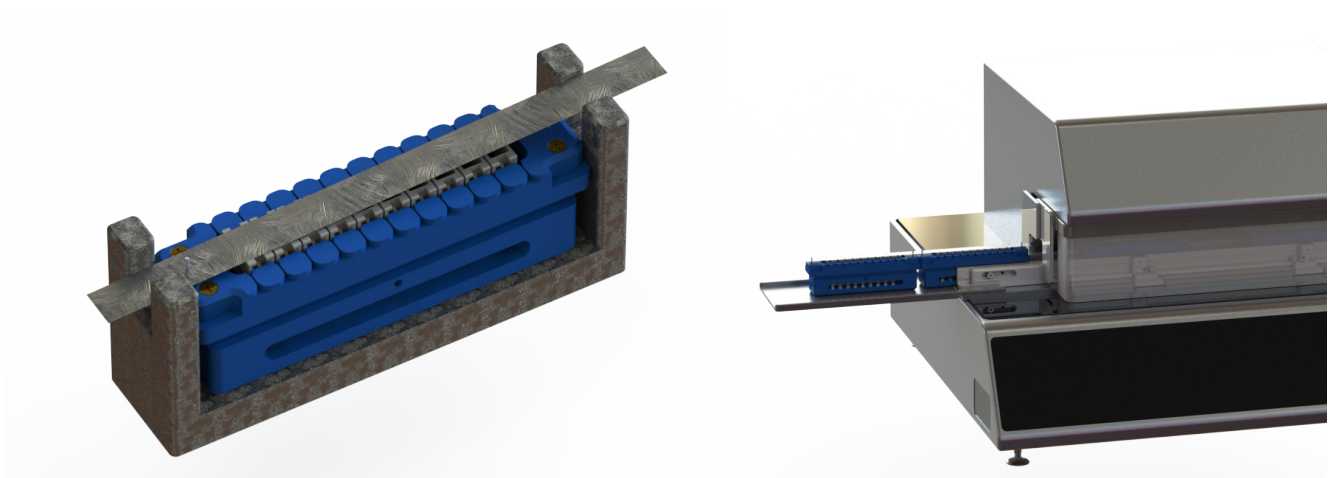
Main Parts of Cuvette Sealer:

1. Emergency button
2. E-stop Reset
3. Start Cycle
4. Track
5. Roll Holder
6. Foil Adjustment
7. Heat Press
8. Cutter
9. Safety Cover



Cuvette Sealing Process

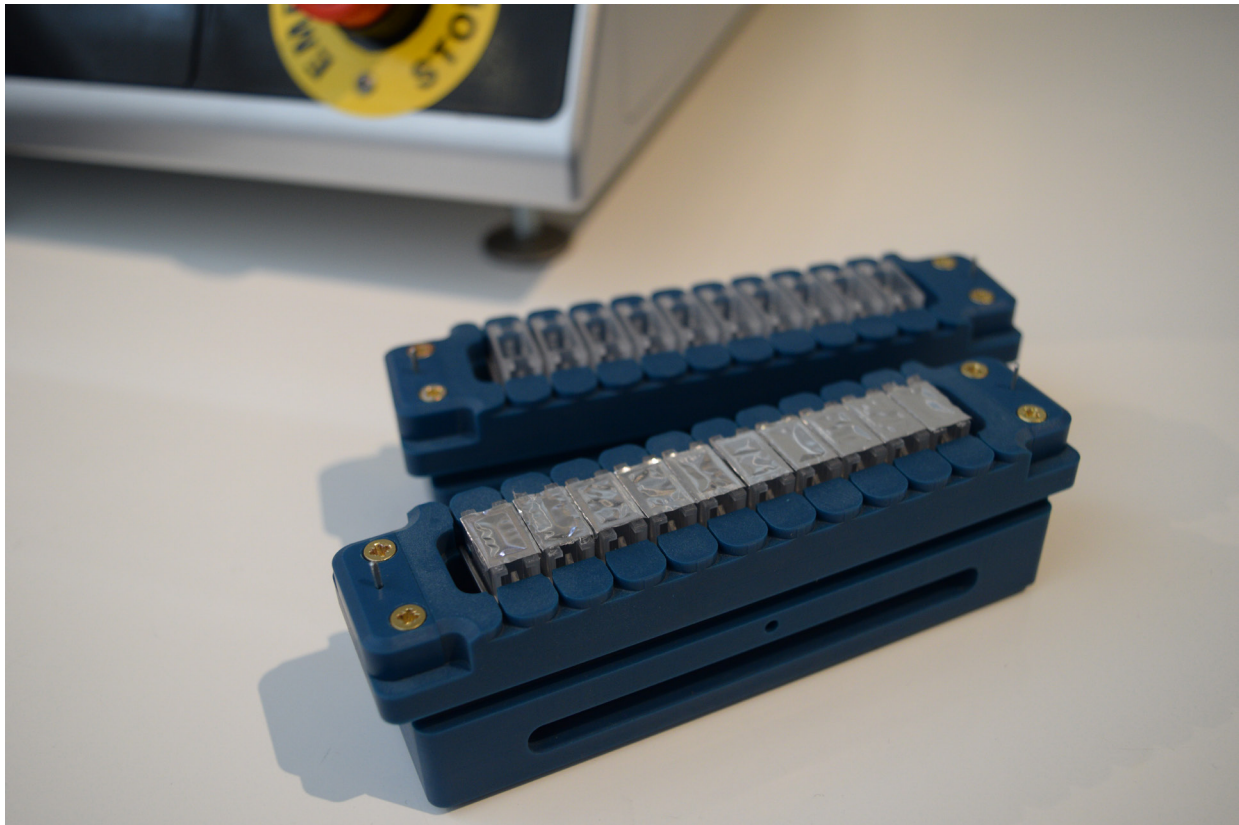
The process begins with the user of the Cuvette Sealer loading cuvettes into a cuvette holder after which the user dispenses reagents into the cuvettes. The user then moves the cuvette holder into vacuuming where the reagents are dried. After the reagents are dried, the cuvette holder is inserted into the Cuvette Sealer.



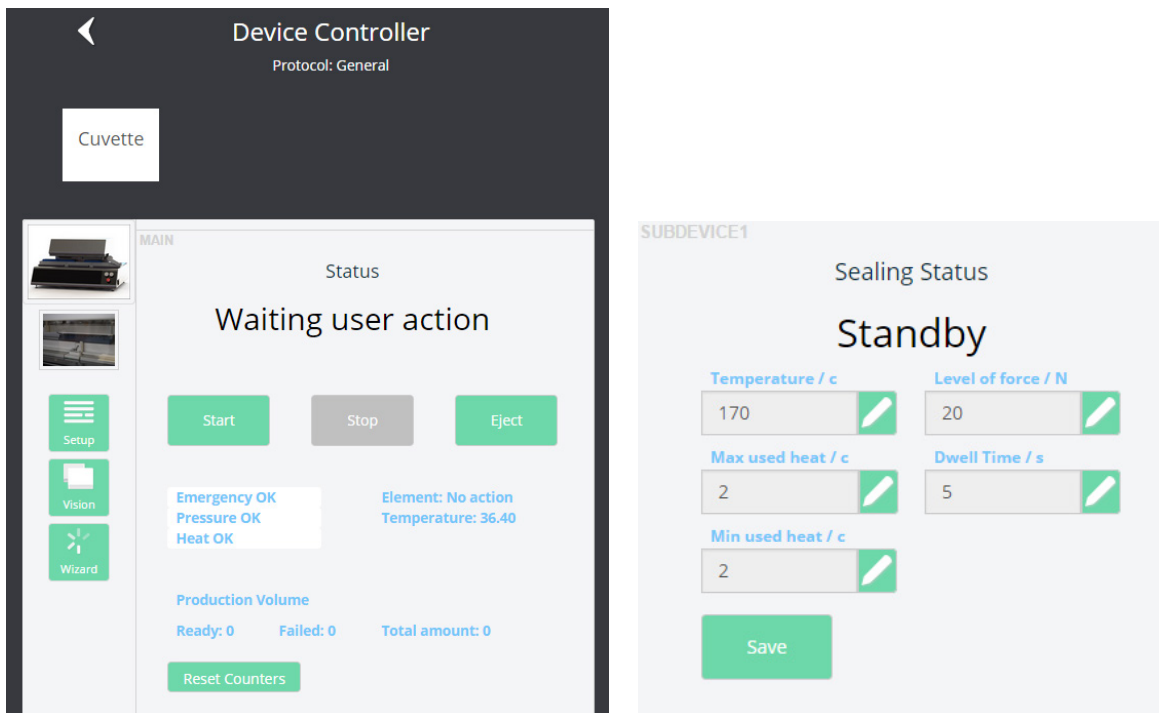
Picture 3. Foil alignment jig

The cuvette holder moves along a track pulled by pins attached to a chain. The holders are then recognized and positioned using inductive sensors. A photo-electronic pair of sensors ensure the accurate positioning of the holder.

Foil is heat-bonded onto the cuvettes and then the cuvettes are cut out. The user takes the cuvettes out of the holder. The holder is reusable for the next batch.



Picture 4. Foil alignment jig and sealed cuvettes



Picture 5. UI screenshots

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