

## Popis

The equipment is designed as a single-purpose automatic line to assembly the Membrane Unit with a Desiccant Disc into a Well. The Well is subsequently closed with a welded-on aluminium cover foil and labelled with a type indication label.

The equipment is designed as an automatic piece of equipment, the operator only replenishes the incoming material, takes products and selects the parameters of the process.

The following processes gradually take place in the equipment: the Membrane Unit is tested for pressure leak, the Membrane Unit's coloured version is checked, the Desiccant Disc is preheated, the Desiccant Disc and the Membrane Unit are assembled into the Well, the aluminium cover foil is cut out, the aluminium cover foil is welded on the Well, the type indication label is stuck onto the lid of the foil and products are sorted into compliant and non-compliant.

## Facts and interesting things:

- The equipment is designed for work in clean rooms of medical production.
- The basis of the equipment is formed by a frame made from steel profiles and fitted on adjustable feet, with a satin-anodized soleplate made from an AL alloy.
- Openable protective covers made from transparent plastic with safety locks in the framework made from aluminium profiles.
- Assembly of the product takes place on a double assembly carousel which is in cooperation with other stations.
- Majority of handling of parts is carried out by a robot. The robot is used to move all components between different stations and the carousel. A robotic arm is equipped with a pneumatic suction pad and with grippers in order to grasp objects.
- The Membrane Units enter the equipment in small pallets which are placed into a stacking unit with a stock for one hour of operation. The small pallets are transported on a conveyor belt to the take-away place and after they have been emptied, they are stacked in a vertical output bin.
- The Leak test station for the Membrane Unit tests the tightness of the membrane. A differential pressure sensor is used to sense the pressure. The test takes place under the pressure of 1200 mbar. If the pressure drop after two seconds exceeds 3 mbar, the part is considered to be non-compliant.
- Using a sensor of colours, every Membrane Unit is checked for the correct colour according to the selected recipe. The colour always indicates one of four versions of the product.
- The Desiccant Discs and the Wells are fed to the machine by means of vibration bins and bars.
- Before the Desiccant Discs are placed into the product, they are heated for 10 minutes on a Hot Plate under the temperature of 110°C. The Hot Plate has 153 positions where the Discs are placed and subsequently removed under the FIFO system.
- A Punching Station is used to cut out the aluminium cover foil - the lid from a reeled-up strip.
- The lids are placed on the product in three different orientations according to the selected recipe.
- A welding station to weld the aluminium lid on the Well.
- A label device is used to stick the label on the complete Well closed with the lid.
- The working cycle of the machine is 4 seconds.

## Basic technical data:

Length:	2175 mm.
Width:	1250 mm.
Height:	1940 mm.
Weight:	925 kg.
Power supply:	3 NPE 400/230V AC 50 Hz TN-S

