

Description

The equipment is designed as a single-purpose automatic line to punch out rings from a very thin membrane and to weld them on by means of ultrasound in two different plastic parts - on the tip of the jacket (Jacket) and on the lid (Guiding Lid).

The required shape of the membrane is punched out, placed on the plastic part and subsequently welded on by means of ultrasound. Furthermore, the weld between the part and the membrane is checked for tightness. Individual parts are dosed into the machine by means of vibrating feeders, they move on a revolving carousel and they are handled by a robot.

The operator selects a programme according to the product which is to be manufactured, he/she ensures a sufficient quantity of the foil and parts and he takes away the bins with finished products at the end of the process. The products "Jacket" leave the machine placed on pallets, the products "Guiding Lid" are put randomly into boxes by the robot. Non-compliant products are placed into a special box.

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 an assembly carousel which is in cooperation with other stations.
- The robot takes away the parts from the vibrating bars, places the parts on the carousel, unloads compliant products from the carousel and places them on pallets or into a box and places non-compliant products into a special box.
- A robotic arm is equipped with a pneumatic suction pad in order to grasp objects.
- The plastic parts enter the equipment by means of the vibrating bins.
- The punching station is used to punch out the rings from a very thin membrane (10 micrometers) from a reeled stripe. A different type of membrane is used for every type of products. Diameters of the punched out rings are 2.6 mm and 5.6 mm.
- Having been punched out, the rings are grasped with the vacuum suction pad and placed on the plastic part for welding.
- The rings are welded on the plastic part by means of ultrasound. Parameters of welding are saved in individual recipes.
- The leak test station of the membrane. A differential pressure sensor with a small range but with high pressure resistance is used to sense the pressure - an option to measure small leakage at higher pressures.
- A manipulator for the "Jacket" products takes away the parts from the carousel and turns them into a position suitable for taking away by the robot and placing on pallets.
- A conveyor belt of pallets with the "Jackets" products.
- The working cycle of the machine is 4 seconds.

Basic technical data:

Length:	2000 mm.
Width:	850 mm.
Height:	1950 mm.
Weight:	554 kg.
Power supply:	3 NPE 400/230V AC 50 Hz TN-S

