

Description

The equipment is a robotized workstation and is used for automated drilling of miniature orifices in stents. Stents are thin shaped tubes for use in surgery. The tubes are fitted in groups in a clamping pallet where their end shape is reliably fixed. The pallet has a pass-through grid of orifices in places defined for drilling of orifices.

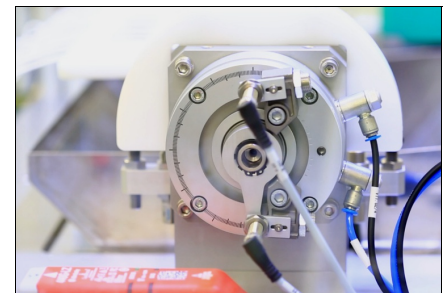
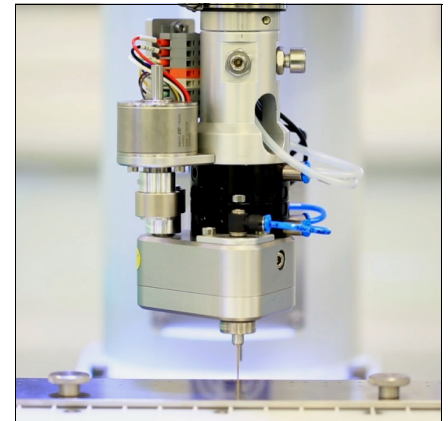
An operator will place a pallet into the machine to the position in the pallet holder and will turn on an automatic drilling process. An RFID reader will read up the code of the pallet in order to select the defined layout for drilling.

The drilling as such is carried out in the required distribution by a four-axis robot whose relevant drilling head is clamped in the end effector. Having the orifices on one side of stents been drilled through, the pallet in the holder will be turned over by 180° and drilling will automatically be carried out from the other side as well.



Facts and interesting things:

- The equipment meets the requirements for use in clean rooms of class 8 as per ISO 14644-1.
- The load-bearing frame of the machine is welded from stainless steel-made profiles. Covers are made from transparent polycarbonate and it is possible to open them and they are secured with security locks with blocking in course of operation of the machine.
- Every drilling head has two spindles with hollow drills of small diameters, one drill always carries out the drilling in an automated cycle and the other drill is cleaned outside the pallet from the material collected by the drilling process with a thin spike.
- The drilling heads are replaceable, the robot is able to replace them automatically without any intervention by the operator. Storage positions as a bin of tools are in the machine for the drilling heads.
- It is possible to programme the layout with positions of orifices in such a way that it is read up from the relevant pallet via the RFID reader in an automatic process.
- At the beginning of the process and after every replacement of the drilling head, the robot comes automatically to the calibration position for the height of the drill and will correct the elevation coordinates.
- The station is managed by a PLC with an operator interface with a touch screen of a diagonal equal to 7" including a software application.



Basic technical data:

Length:	1,160 mm
Width:	940 mm
Height:	2,200 mm
Weight:	510 kg
Power supply:	1 NPE 230V AC 50 Hz TN-S