

## CONTACT

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### Further information

[www.isc.fraunhofer.de](http://www.isc.fraunhofer.de)

**MFD – Marking Firing Device for firing enamel markings on ready calibrated volumetric flasks**



## PROCESS

- The basic idea is to heat up only the region around the marking up to the softening point to melt the enamel color into the glass tube
- The MFD is developed as a semi automatic one station unit which can be placed on a table. It can be modularly extended by several further units if required

### The workflow is as following:

1. A volumetric flask is placed on the table and the start button is pressed
2. The table drives upwards into the heating chamber
3. While driving up an optical sensor detects the marking position and the motor drives it exactly into the optimal firing position
4. During the firing process the temperature is controlled and after a defined time it drives automatically back to the loading point
5. The flask can be removed and the process starts from beginning

## SPECS

- Cycle time: approx. 50 s for one 1000 ml flask
- Range: 10 – 2000 ml volumetric flasks  
(other designs on request)
- Hardware: Servo-axis and controller for lifting, PLC with touch screen, Temperature controller and sensor
- Power rating: 230 V/50 Hz/1.5 kW
- Dimensions lxbxh: 73x66x94 cm
- Weight: 60 kg

