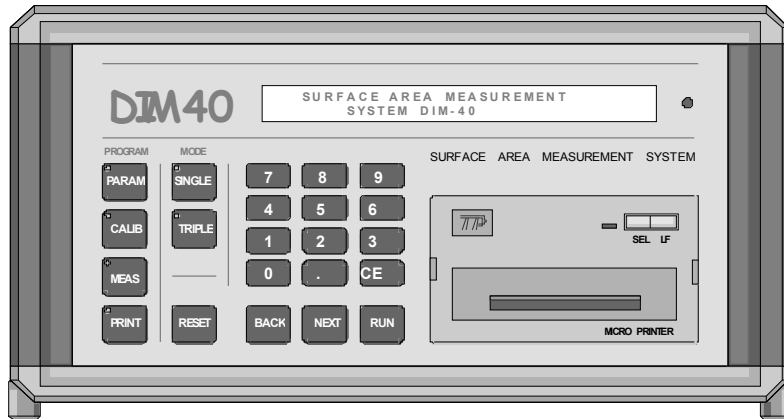


DIM - 40 SURFACE AREA MEASUREMENT SYSTEM

DIM- 40 measures the surface area of electrical conducting bodies. The surface area of complicated shapes is measured rapidly and precisely.



TECHNICAL DATA:

Weight: 10kg
L.W.H: 32x30x18cm
Range: 0 to 1000 dcm^2
Power: 220V AC

PRINCIPLE OF MEASUREMENT.

DIM-40 is based on an electrochemical measurement which is controlled through ionic diffusion (DIM = Diffusion Measurement). The body to be measured is immersed in an electrolyte solution. A potentiostatic impulse is applied to it and the resulting current is analysed with the help of a microprocessor which computes the surface area. The resulting electrochemical signal consists in a 40 points current-time function (therefore DIM-40). Furthermore the microprocessor self validates the measurements by checking the reproducibility of the current-time function as well as the occurrence of the diffusion control. DIM-40 has an excellent throwing power and is appropriated to strongly profiled bodies. The measured value represents the true surface area which can be higher than the „galvanic surface area”. However since the „galvanic” surface area varies from one plating bath to the others, the true surface area is the best reference value and the safer one when dealing with precious metals.

UTILISATION.

DIM-40 is user friendly and the programming is easy and interactive. There are four user programs: 1) the Parameter program through which the process parameters are introduced, 2) the Calibration program, 3) the Measurement program and 4) the Print program which allows to print out all parameters and electrochemical data for calibration and measurements. The print out of data may help for a diagnostic at distance.

APPLICATIONS.

DIM-40 is particularly helpful for galvanotechnical applications because the surface area is needed for the correct setting of current density. This is important for precious metal plating, where the consumption is directly proportional to surface area and for alloys because their composition depends on the applied current density. For electroforming of jewellery the carat can only be controlled through the current density of electrodeposition. DIM-40 is useful to improve savings and quality of galvanotechnical coatings and parts. The application areas are mainly jewellery, watches, connectors, precision mechanics, medical and optical instruments. DIM-40 replaces the previous DIM generation. It is smaller, lighter, and evaluates a forty points current-time function instead one one. The self check of measurements is also new. DIM-40 takes advantage of the new possibilities in the electronics and microprocessors. Therefore significant improvements in precision user friendship and cumbersomeness were achieved.



APEK