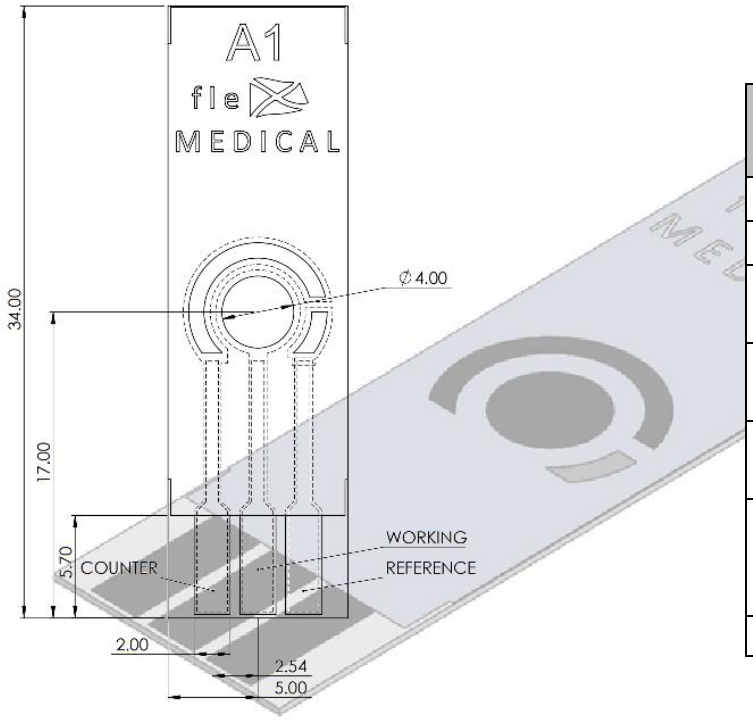
Technical Data Sheet

Screen-Printed Carbon Electrodes

FMS-008



Electrochemical Technique	Suitable
Chronoamperometry	☑
Cyclic Voltammetry	☑
Square Wave Voltammetry	☑
Differential Pulse Voltammetry	☑
Open Circuit Potentiometry	☑
Electrochemical Impedance Spectroscopy	☑
Others	Enquire

Description

The FMS-008 electrode features a screen-printed carbon working electrode and counter electrode on a polyester substrate. It is configured as a three-electrode system, incorporating a screen-printed Ag/AgCl reference electrode. These electrodes are designed for single use and are intended exclusively for research and development purposes.

Table 1: Technical specifications for FMS-008 electrodes

Technical Specifications	
Working Electrode Material	Carbon
Counter Electrode Material	Carbon
Reference Electrode Material	Ag/AgCl
Substrate Material	PET
Conductive Track Material	Silver
Working Area	12.6 mm^2
Recommended Sample Volume	50 – 100 µL

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Sample Performance Data

The performance data presented in this document represents typical expected results for FMS-008 electrodes within the same batch. For detailed information regarding potential variations between batches, please contact the manufacturer.

Method of Analysis

Analysis was performed by cyclic voltammetry using the settings outlined in table 2 with a mediator solution consisting of 5mM potassium ferricyanide/ferrocyanide in 10 mM PBS pH 7.4.

Table 2: Analysis settings

Setting	Value
E begin	0.0 V
E vertex1	1.0 V
E vertex2	-0.8 V
E step	0.01 V
Scan rate	100 mV/s
Number of scans	4

Results

The voltammograms below show 3 successive scans on the same electrode, the first scan has been removed.

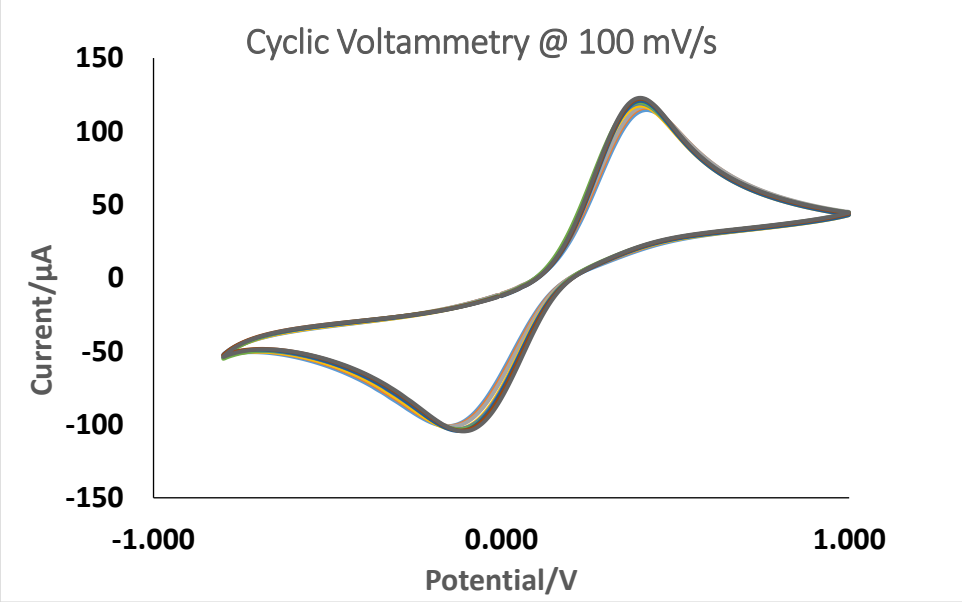

Figure 1: 3 successive CV scans of mediator solution on a FMS-008 electrode.

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Sample Performance Data (cont.)

Typical Electrode Performance

Table 3: Expected potassium ferricyanide / ferrocyanide oxidation & reduction peak values for FMS-008 electrodes.

Parameter	Peak Height (µA)	Peak potential (V)
Oxidation Peak	117.9	0.41
Reduction Peak	-101.7	-0.14

Repeatability

Table 4: Oxidation & reduction peak variability data from 20 electrodes within the same batch.

Parameter	Intra – electrode Variability (%CoV)	Inter – electrode Variability (%CoV)
Oxidation Peak	0.9	3.9
Reduction Peak	0.2	3.4

For more information contact: info@FlexMedical-Solutions.com

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