

MICRO CLARK/NEEDLE OXYGEN ELECTRODES



CLARK-STYLE O₂ MICROELECTRODE WITH GUARD CATHODE

Specially designed for marine biology research

PRODUCT NO. 737GC

Advantages Include

- Internal Ag/AgCl reference anode
- Does not depolarize, allowing low end calibration & measurements
- Guard cathode provides high resolution in near anaerobic environments and enhances response time.
- Low O₂ consumption
- No stirring required - easy calibration
- Sturdy axial design permits media penetration
- Low sensitivity to motion artifact

Specifications

- Nominal outer diameter in sensing region: approximately 150 micron (diameter of 5 to 250 micron available)
- Internal reference (anode): Ag/AgCl

- 90% response time in less than 1 second
- BNC connector (appropriate for use with Diamond General instruments) wired to a 1.5m shielded cable.
- Current output: in picoamp range
- Motion artifact sensitivity: <2% offset to diffusion limited ambient PO₂
- Cathode: noble metal type polarized at -0.800V.

Useful for research in:

- Plant tissue
- Animal tissue
- Aquatic sediments
- Microbial slimes
- Soils

Guard cathode require one:

1170 Guard Adapter Cable - for use with the 1201 Chemical Microsensor.

or

1070 Power Supply Box - for use with the 1231 Chemical Microsensor II or other polarographic amplifier requiring an external polarization supply source.



OXYGEN NEEDLE ELECTRODES

PRODUCT NO. 768-22

PRODUCT NO. 768-20R *with internal reference*

PRODUCT NO. 768-25

Specifications

- Response time ≤ 3 sec @ 90%
- *Stainless steel needle length:* 3.81cm (1.5 in)
- *Oxygen sensitivity:* approximately 7 X 10⁻¹² amp/(mmHg of O₂)
- *Needle shaft diameter:*
768-20R = 0.89mm (.035 in, 20 gauge)
768-22 = 0.71mm (.028 in, 22 gauge)

768-25 = 0.50mm (.020 in, 25 gauge)

- *Motion artifact sensitivity:* 10% offset to diffusion limited @ ambient PO₂
- *Cathode diameter:* Nominally 25 micrometers gold plated on platinum recessed and protected by oxygen permeable membrane.

Features

- Low oxygen consumption
- Fast response time
- Low sensitivity to motion artifact
- Small cathode surface
- Ideal for tissue PO₂ measurements
- Internal Reference (768-20R)

COMBINATION OXYGEN/pH NEEDLE ELECTRODE

Simultaneous Measurement of Oxygen and pH

PRODUCT NO. 757

Features

- Internal reference liquid junction Ag/AgCl electrode
- Low oxygen consumption
- Fast Response time for both functions
- Low sensitivity to motion artifact

- Can measure full pH range
 - Can be used in both tissue and solutions
- Complete Instrumentation available

Specifications

- Response Time (to 90% final value):
O₂ ≤ 3.0 sec.; pH ≤ 15.0 sec
- Stainless steel needle length: 3.81cm (1.5 in.)
- Cathode diameter: Nominally 25 micrometers, gold plated on platinum recessed to about 50 micrometers,

polarized at -0.700V

- pH Range: 1-14
- pH Sensitivity: >55mv/pH unit
- Oxygen sensitivity: approximately 7 X 10⁻¹² amp/mmHg of O₂