



## E2MPK Series

Rotating Disk Working  
Electrode Product Guide

Part # Style: AFE2M050XXPK

(XX = disk electrode material, e.g. AU = gold,  
PT = platinum, GC = glassy carbon, etc)

### Warnings



Caution:

Maximum Rotation Rate **7000 RPM**.



Caution:

Use care when electrode is rotating  
above **2000 RPM**.



Thermal Stability:

Use electrode from **10°C to 80°C**. Extreme  
temperatures damage electrode seals.



Chemical Compatibility:

For pyrolytic graphite disk electrode  
materials (basal plane or edge plane),  
the disk is epoxy-sealed. Organic  
solvents can attack and damage epoxy.



Chemical Compatibility:

The polyether ether ketone (PEEK) shroud  
will dissolve in concentrated acids.

### Description

The single-piece E2MPK Series rotating disk electrode is designed for use at high rotation rates (up to 7000 RPM).

It is compatible with MSR style rotators and fits through a 24/25 electrochemical cell port. The topmost portion of the shaft is electrically isolated and designed to be mounted in the MSR motor coupling. The MSR rotator has brushes which make electrical contact with the disk contact area near the top of the shaft (see: Diagram).

The lower portion of the shaft is protected by a shroud of polyether ether ketone (PEEK), a polymer that is chemically compatible with most organic solvents but degrades in concentrated sulfuric and nitric acid solutions.

### Leak Testing

The shroud is tightly sealed around the circumference of the working electrode material. The electrode is guaranteed to be leak-free at the time of shipment (each electrode is shipped with a copy of the factory leak test results). Leak testing is performed at ambient (room) temperature and at ~80°C. Exposing the electrode to temperatures less than 10°C or above 80°C may create a leak between the electrode material and the shroud.

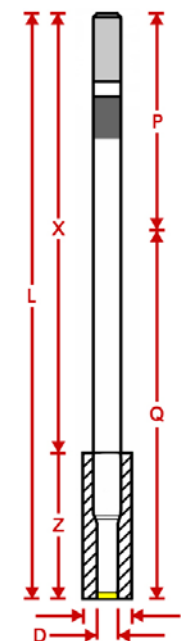
### Maintenance

After using the electrode, clean it with distilled water and replace the protective cover to prevent the electrode surface from being scratched. Periodically, the electrode surface will need to be polished. An electrode polishing kit with various alumina slurries and polishing pads is available (sold separately).

### Mounting the Electrode

Mount the electrode securely but do not apply excessive force to the shroud as this may damage the seal between the shroud and the electrode surface. Place the electrode surface at least 5 mm below the solution level. The upper (non-shrouded) part of the shaft must always remain above the solution level; the shrouded part is permitted to touch the solution. Prevent the rotating electrode from rubbing against surfaces (such as the inner wall of the cell).

### Diagram



□ isolated  
■ disk contact

Disk Diameter (D):	3-7 mm*
Shroud Diameter (S):	12 mm
Shroud Length (Z):	38 mm
Shaft Length (X)	139 mm
Working Length (Q):	110 mm
Hidden Length (P):	67 mm
Overall Length (L):	177 mm

\*Custom Sizes Available

### Contact Us / Support

2741 Campus Walk Ave, Building 100  
Durham, NC 27705 USA

www.pineresearch.com

pinewire@pineinst.com

+1 (919) 782-8320