

RxE 10K Rotating Electrode

The RxE 10K Rotating Electrode is a research-grade rotator and features the ability to use rotating ring-disk, disk and, cylinder electrodes. The rotation rate is adjustable from 50 – 10,500 rpm (revolutions per minute). The Controller has a Liquid Crystal Display (LCD) which indicates the rotation rate and is controlled by a rotation rate knob. Alternatively, the rotation rate may be controlled by your Gamry Interface or Reference family instrument or simply by USB. The electrode assembly of the rotator has a versatile design that allows for the use of diverse electrode types. Different shaft and electrode tips can be selected depending on your desired use. Different shafts are used for disk and cylinder or ring-disk experiments.



APPLICATIONS

- Corrosion
- Catalyst Development
- Fuel Cell Research
- Controlling Mass Transport of Reactants to Electrode Surface

Rotating ring-disk electrodes are used where products generated at the disk electrode are monitored at the ring electrode. A bipotentiostat is required for these experiments and Gamry can supply an instrument using two standard Gamry potentiostats collecting data synchronously when connected to the same computer. A number of ring-disk electrodes are available.

Rotating disk experiments are performed where defined mass transport to the sample electrode is desired. An example of this type of experiment would be catalyst evaluation.

Rotating cylinder experiments are important in the oil and gas industry to simulate the corrosion environment inside a pipeline, thus avoiding the need to assemble expensive flow loop setups. The rotator is an ideal tool because flow conditions at the rotating cylinder are generally turbulent even at low rotation rates. Cylinders can be made from a variety of different metals to evaluate their performance including 1018 carbon steel, 316 stainless steel and 430 stainless steel. Users can machine cylinder samples using their actual material.

The electrodes for the rotator are sold separately and include a wide selection of standard materials.

MODE	ELECTRODE
Rotating Disc Electrode	Au Pt GC
Rotating Ring-Disc Electrode	GC-GC GC-Pt (disc-ring) Pt-Pt Au-Au
Rotating Cylinder	1018 carbon steel 430 SS 316 SS

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SPECIFICATIONS	
POWER	100 - 240 VAC, +/- 10%; 50/60 Hz; 2A
SHIPPING INFORMATION	
SHIPPING WEIGHT	60 pounds (25 kg)
SHIPPING DIMENSIONS	24.0 x 20.0 x 24.0 in (61 x 51 x 61 cm)
DIMENSIONS (L X W X H)	
CONTROL UNIT	11.4 x 10.1 x 5.75 in (29 x 26 x 15 cm)
ROTATOR ENCLOSURE:	18.8 x 15.5 x 21.0 in (48 x 40 x 54 cm)
MOTOR	
MOTOR POWER	147 W rated power
SUPPLY VOLTAGE	48 VDC
MOTOR TYPE	Brushless DC (BLDC) motor
MOTOR PROTECTION	2 Amp thermal-type circuit breaker current limited power supplies
MAX. CONTINUOUS TORQUE	30 millinewton-meters
RATE CONTROL	Closed loop servo-system temperature compensated tachometer mounted on motor shaft
RATE DISPLAY	4 ½ digit display indicates rotation rate (RPM)
RATE ACCURACY	+/- 1 rpm for 50-10500 rpm