

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

**Artisan Technology Group**
(217) 352-9330 | sales@artisantg.com | artisantg.com

**Full-service, independent repair center**
with experienced engineers and technicians on staff.

**We buy your excess, underutilized, and idle equipment**
along with credit for buybacks and trade-ins.

**Custom engineering**
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

**Expert team | Trust guarantee | 100% satisfaction**

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *MKS Instruments / ENI GEW-30A* at our website: *Click HERE*

mks
Technology for Productivity

Power Delivery

www.mksinst.com

# RF Power Products

- PLASMA GENERATORS
- MATCHING NETWORKS
- METROLOGY




Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

## Repeatable Performance

Spectrum® is a new RF generator platform that provides power from 1.5kW to 11kW across a variety of frequencies to meet the increasing demands of thin film processing. With precise power control, rapid response time, superior thermal stability and high accuracy, MKS RF generators ensure improved process performance and yield.

## Increased Flexibility

MKS offers a suite of compact, lightweight RF products with a variety of user interfaces and features including automatic frequency tuning, fast transient recovery, and pulsing.

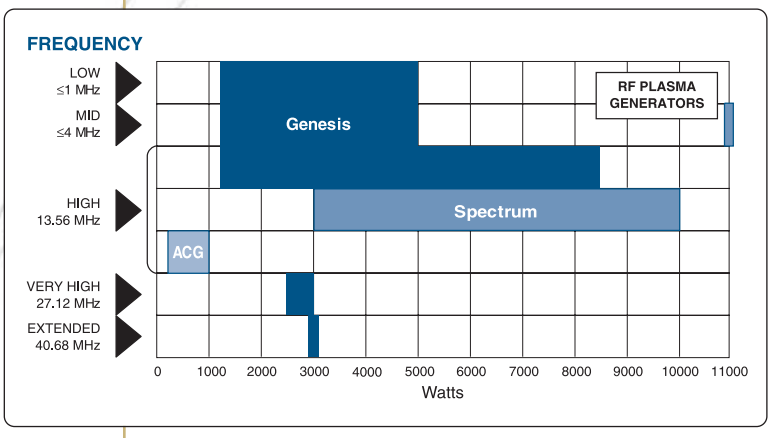
## Rugged Reliability

Low parts count and robust design provide high reliability, even in the most demanding RF plasma applications. The high efficiency power amplifier, RF stability due to low spurious output, and generous RF power margin combine to allow for more forward power into mismatched loads and more strike voltage potential for hard to ignite chambers.

# RF Power Products

The MKS, ENI® Products family of RF plasma generators covers the full range of frequencies, from low to very high. Designed for high power density with extra headroom, ENI® RF products provide field proven reliability, exceptional stability, and unsurpassed repeatability for high uptime and yield—all in a compact package.

MKS RF plasma generators are complimented by Matchwork® impedance matching networks and the V/I Probe® plasma impedance analyzer. Together they form a complete RF delivery system for closed-loop monitoring and control, providing improved process consistency and higher yield—even under the most difficult plasma loads.




*Power and frequency range for MKS RF family of products*

## Comprehensive RF Product Offering

The RF family consists of several highly reliable power generator platforms including Spectrum®, Genesis, and ACG. For efficient generator-to-chamber power transfer and real-time plasma metrology, MKS offers the Matchwork® line of Matching Networks and the V/I Probe® Plasma Impedance Analyzer.

## RF Plasma Generators

The SurePower® platform of RF plasma generators is the most advanced class of 13.56 MHz generators commercially available. The SurePower architecture incorporates state-of-the-art RF topologies, patented intrinsic power amplifier protection, improved design margins, and embedded V/I probe sensors to achieve the highest reliability, reproducibility, and accuracy of any generator in the marketplace today. SurePower is available in power levels from 3.5kW to 13.0kW.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

**MKS RF plasma generators feature high power density, exceptional stability, generous power margins and excellent reliability. The generator's ±1% accuracy is tied to and transferable from the United States National Institute of Standards. Response time to power set point changes and process transitions is 500µS. The result is advanced RF plasma generation and control for low cost and high yield in the most demanding thin film processing applications.**

**APPLICATIONS**

- **Semiconductor & Thin Film**
  - **Etch**
  - **Deposition**
- **Solar Cells**
  - **Etch**
  - **Deposition**



*SurePower® 13.0kW (top) and 3.5kW (bottom) 13.56 MHz RF Generators*



*Genesis 2.5kW 13.56 MHz RF plasma generator*

Genesis is a platform of RF plasma generators with a wide range of power and frequencies for a variety of plasma deposition and removal applications. DSP-based power control ensures power accuracy for RF stability, repeatable performance and high yield.

The ACG Series of air-cooled RF plasma generators is designed for low-power, high-frequency applications. The ACG accommodates 100-240 VAC with no taps or adjustments. The ACG is compact, reliable, stable and accurate for repeatable plasma processing applications.



*ACG 0.6kW 13.56 MHz RF plasma generator*

## RF Impedance Matching Networks

The Matchwork® line of impedance matching networks improves process repeatability and yield by providing high speed tuning to match the chamber's variable impedance to the generator's working load. Commonly customized to chamber configurations, Matchwork® products are available for most of MKS' plasma generator power and frequency levels.



*Matchwork® 0.5kW 13.56 MHz impedance matching network*

## RF Plasma Metrology Products

The V/I Probe® RF Impedance Analyzer uses DSP technology to acquire real-time, highly accurate, user-programmable data on load voltage, current and phase angle. This results in optimized process performance and yield by process endpoint detection, monitoring deposition thickness and other RF metrology diagnostics.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

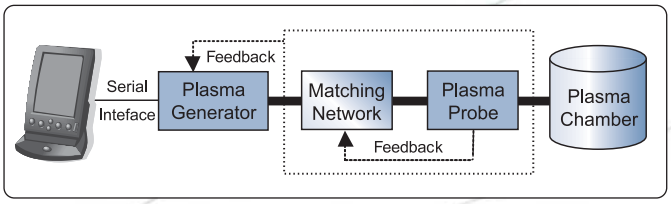


*V/I Probe® frequency tuning, scanning plasma impedance monitor*

## RF Plasma Metrology Products (cont.)

**Integrated Performance Optimization**

The complete RF delivery subsystem consists of an RF plasma generator, matching network and impedance analyzer. The integration of these elements closes the loop on monitoring and controlling power delivery at the chamber, ensuring better chamber-to-chamber, wafer-to-wafer consistency and higher yield.




*Complete RF Delivery System*

mks
Technology for Productivity

### MKS Power Generators & Subsystems

ENI® Products
100 Highpower Road
Rochester, NY 14623

Tel: 585.427.8300

### MKS Global Headquarters

2 Tech Drive, Suite 201
Andover, MA 01810

Tel: 978.645.5500
Tel: 800.227.8766 (in USA)
Web: www.mksinst.com

**China**
**France**
**Germany**
**Israel**
**Italy**
**Japan**
**Korea**
**Netherlands**
**Singapore**
**Taiwan**
**United Kingdom**
**United States**



RF Family - 4/08
Specifications are subject to change without notice.
ENI®, Matchwork®, V/I Probe®, and Spectrum® are registered trademarks of MKS Instruments, Inc., Andover, MA.
© 2003 MKS Instruments, Inc. All rights reserved.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

**Artisan Technology Group** is an independent supplier of quality pre-owned equipment

## Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

## We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

## Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP