QSI-Nano® NiFe Product Profile
Hydrogen Generation Electrodes

QUANTUM SPHERE®
CLEAN ENERGY AND POWER FOR ADVANCED APPLICATIONS

Nano NiFe Cathode Electrodes for Water Electrolysis

QSI-Nano® NiFe alkaline water electrolysis electrodes are manufactured using a process in which a blend of highly catalytic QSI-Nano® nickel and iron particles are functionalized by dispersing into a proprietary formulation, spray coated, and sintered onto a stainless steel (SS) substrate. The resulting electrodes have an increased surface area of approximately 1000 times vs. standard SS metal plates and may be used as a drop-in solution for existing alkaline electrolyzers to achieve the following results:

- **Increased Gas Output**
- **Decreased Energy Consumption**
- **Decreased Size While Maintaining Efficiency**

*Prices (Includes Two 1/16" 304 or 316 SS Electrodes, Nano NiFe Coating on Cathode Side Only)**

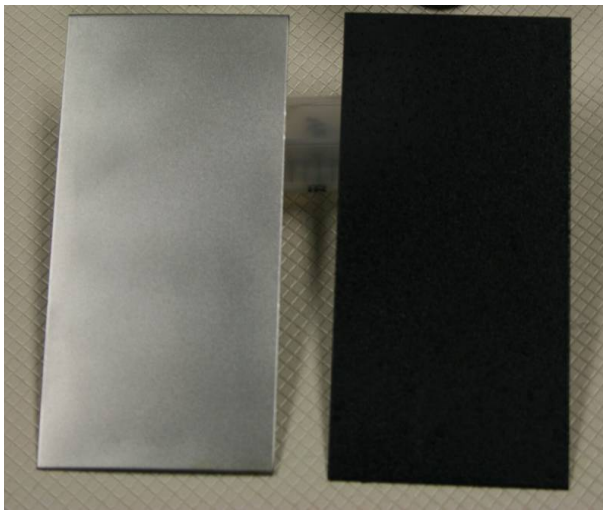
2" x 2"	$ 99.00
4" x 4"	$149.00
6" x 6"	$189.00

*Customization and special pricing available on orders over 100 pieces. Prices subject to change.

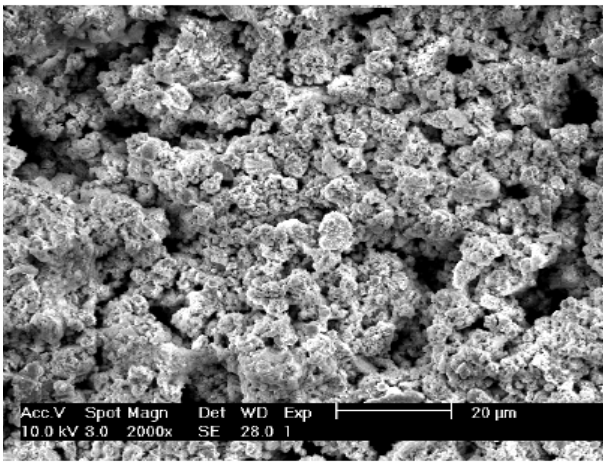
To Place an Order Go To: http://www.qsinano.com/order.php

Note: Typical operating conditions are 80°C, using 33% KOH electrolyte in DI water. Nominally, gas production rates are increased 2 - 4 times the typical values at a given efficiency (higher current at same voltage). The gas output graph below compares SS electrodes (red) vs. a SS anode and QSI-Nano® NiFe coated cathode (blue) in a 20A, six-cell stack with 12V limiting voltage. Performance may vary based on operating conditions and system design.

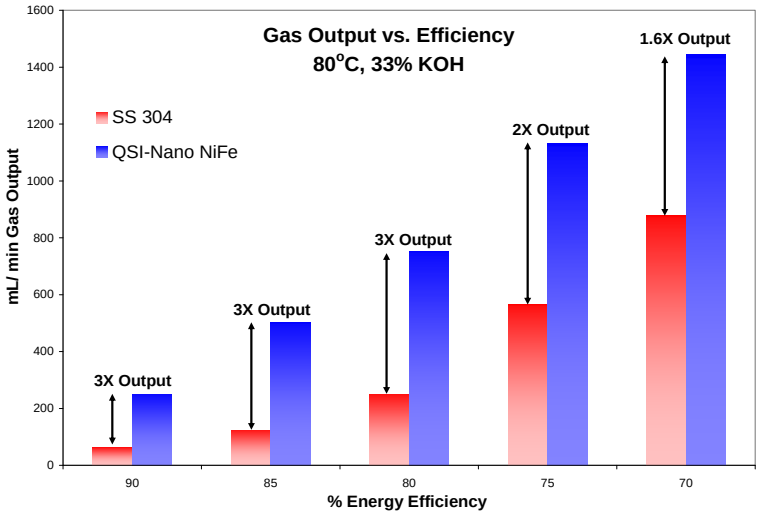
SS Electrode (left), QSI-Nano® NiFe Coated Electrode (right)



SEM Image of QSI-Nano® NiFe Coated SS Electrode Surface



Typical Gas Output Vs. Energy Efficiency



Polarization Curve of SS (red) Vs. QSI-Nano® NiFe Coated SS (blue)