



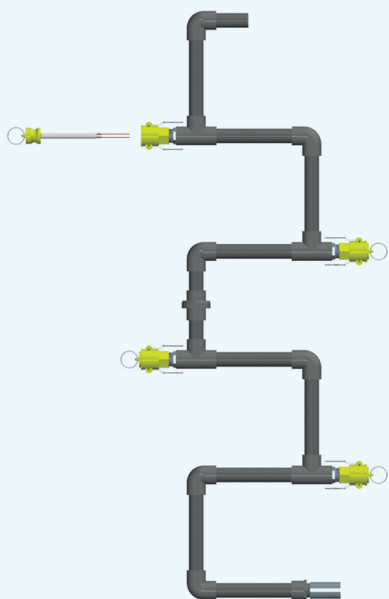
# CORROSION

## MONITORING PRODUCTS

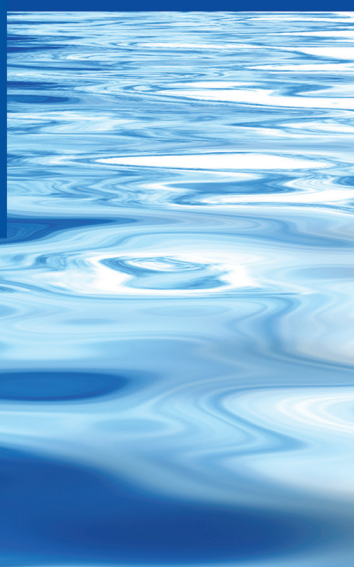
for the

# WATER

## TREATMENT INDUSTRY



**Metal**  
**Samples**®





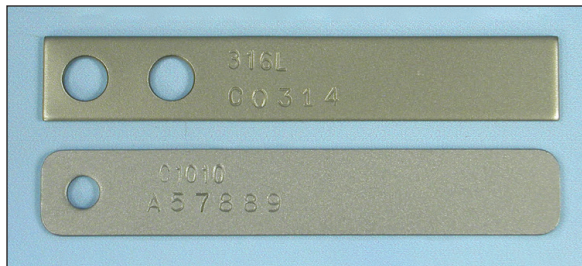
# Corrosion Monitoring Products for the Water Treating Industry

**Corrosion** is the deterioration of a material caused by interaction with its environment, so the severity of corrosion is based not only on the material but also the medium. Since water can be a strong electrolyte, corrosion presents serious challenges for anyone operating a water system. Unchecked, corrosion can result in leaks and component failures as well as water contamination from corrosion products. Additional phenomenon like scaling and bio-fouling can obstruct lines which results in reduced flow and lower system efficiency.

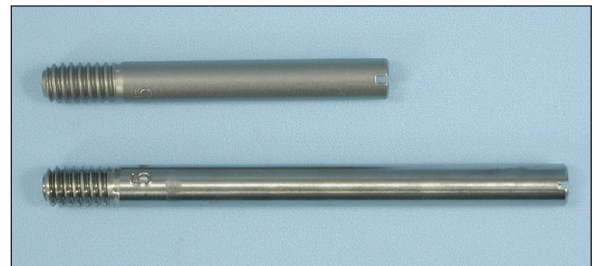
Metal Samples offers a complete line of products to monitor corrosion as well as scaling and biofilm formation. Solutions range from simple weight loss coupons to online monitoring products which can be fully integrated into a plant control system. These products help operators determine corrosion rates and gauge the effectiveness of their corrosion mitigation programs.

## Corrosion Coupons

Metal Samples produces weight loss corrosion coupons which are used to measure the corrosion rate of a material in a given environment. Coupons are offered in standard materials, finishes, shapes and sizes, but can also be customized to meet your specific needs. Coupons are typically preweighed and are stenciled with alloy and sequence numbers for proper identification.



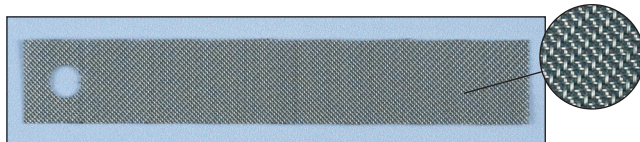
Flat Coupons



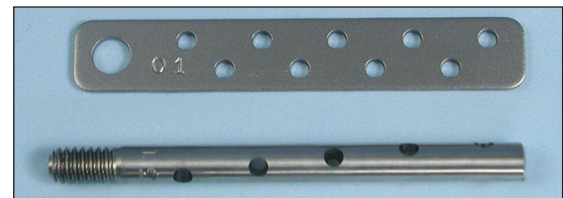
Cylindrical Coupons

## Specialized Coupons

Metal Samples also produces specialized coupons which can be used to monitor scaling and biofilm formation. They are made in the same shapes and sizes as our common corrosion coupons, so they fit our standard corrosion coupon holders.



Mesh Biofilm Coupons



Scale Coupons

## Coupon Holders

Metal Samples offers a variety of coupon holders to facilitate installation in different systems. Fixed pipe plug type holders are the most common and economical. They are simple to use and can be installed in bypass systems or directly into process piping. However, they are fixed length and require system isolation or shutdown. Adjustable and retractable holders provide greater versatility because they can be set to a desired insertion length during installation and do not require the system to be shut down for coupon installation and removal.



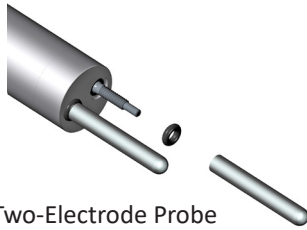
Fixed Pipe Plug Coupon Holders



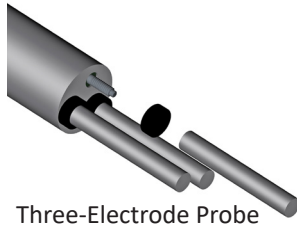
Adjustable / Retractable Holders

## Linear Polarization Resistance (LPR) Probes

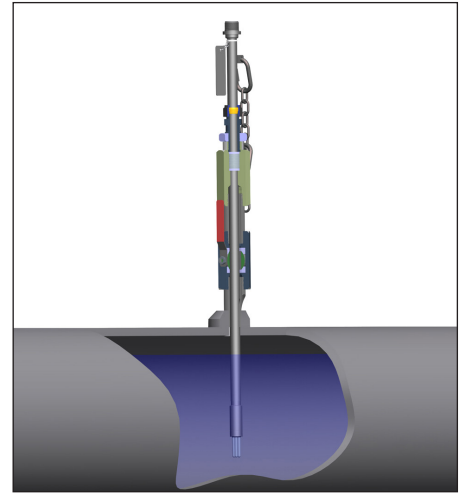
Linear polarization resistance corrosion probes are used in the water treating industry and other environments where instantaneous, on-line corrosion rate readings are required. LPR probes can be provided to accommodate two-electrode or three-electrode techniques. Electrodes are replaceable and can be provided by Metal Samples in any alloy you require.



Two-Electrode Probe



Three-Electrode Probe



## LPR Instruments

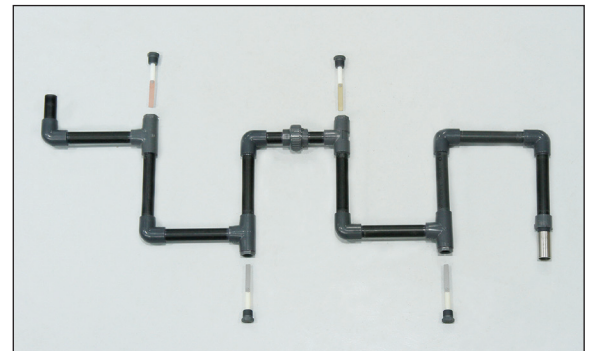
Metal Samples offers a complete line of corrosion monitoring instruments / meters for use with linear polarization resistance (LPR) probes. LPR instruments include portable meters, transmitters, and data loggers. Additionally, Metal Samples offers specialized instrumentation for biofilm monitoring.



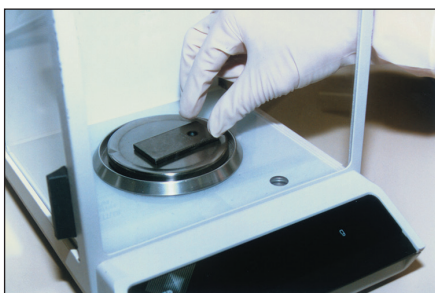
## Bypass Piping Systems

We provide conventional or custom-designed bypass systems for on-line corrosion monitoring. Commonly used in the industrial water treatment industry to determine the corrosive properties of potable or cooling water, these systems are available in PVC, carbon and stainless steels, and other materials.

Standard bypass systems come equipped with 4 pipe plug assemblies, 4 pre-weighted mild steel coupons, and a 5-gpm flow control valve.

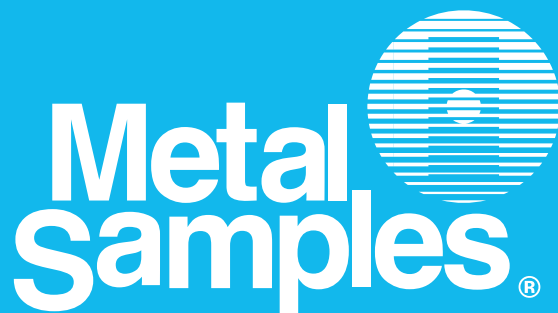


## Post Exposure Coupon Analysis



Metal Samples offers post exposure coupon analysis. Our trained technicians will perform weight loss analysis and determine mils per year (MPY) corrosion rates of your exposed test samples. We are in adherence to ASTM-G1 specifications for cleaning and analyzing coupons.

Optional services include pit depth measurement and photos of the coupons before and after analysis.



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