

Total Solutions for Corrosion Research



**ASTM
compliant
for corrosion
testing***

Metrohm Autolab created these workstations to meet the diverse experimental requirements of establishing corrosion researchers, industrial corrosion professionals, and corrosion research specialists. Two options **Corrosion Compact** and **Corrosion Complete**, are now available.

Applications

General corrosion research and corrosion rate of metals and alloys

- Pitting corrosion and critical pitting temperature of coatings and surfaces
- Quality testing of galvanic anode coatings and determination of corrosion potential
- Study of corrosion inhibitors performance and its effect on corrosion rate

Metrohm Autolab Benefits

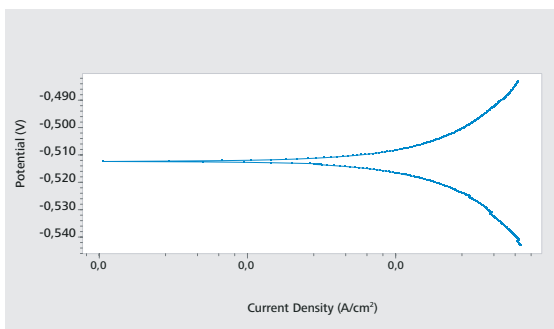
- Quality assured **accurate** and **reliable** electrochemical instrumentation
- Industry-leading service with a global network for **superior support**
- **Versatile instrumentation** that can adapt as your research develops

* Electrochemical corrosion tests

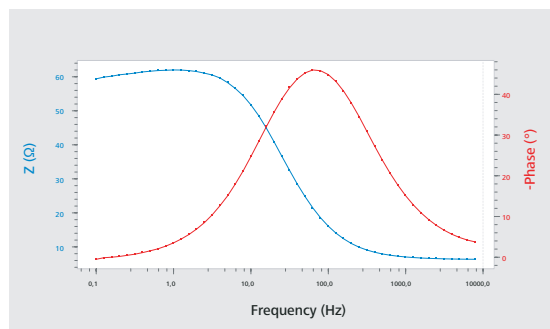
3 year
instrument warranty

 **Metrohm**
Autolab

Corrosion Compact Essential Corrosion Workstation



Tafel Plot.



Bode Plot from FRA32M.

Includes **Autolab PGSTAT204** with **FRA32M** for Electrochemical Impedance Spectroscopy (EIS):

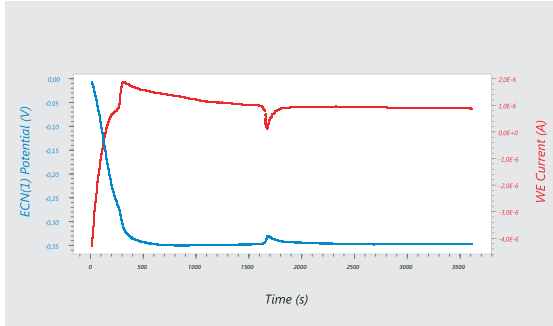
- Powerful NOVA software
- 1 L ASTM corrosion cell (ASTMG5) including:
 - Two-way gas inlet
 - Thermostatic jacket
 - Thermometer 0 – 150 °C
 - Ag/AgCl reference electrode
 - Stainless steel counter electrode
 - Sample holder (1 cm²)

With the Corrosion Compact you can:

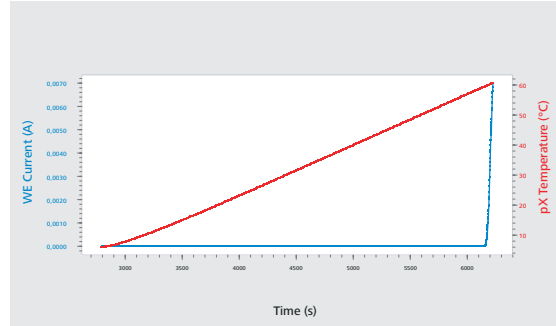
- **Immediately** start your research with a prepared **high quality** 1 L ASTM corrosion cell
- Quickly execute **core corrosion measurements**
- **Customize experiment procedures** in real-time and save for re-use
- Create **publication ready plots** with a single click
- **Quickly execute** core corrosion measurements including built-in data analysis of corrosion rate, electrochemical noise and impedance spectroscopy



To discover Metrohm Autolab's range of specialist application notes check out our **Application Finder**.
www.metrohm.com/applications



Electrochemical noise measurement (ECN):
Corrosion Complete Only.



Critical pitting temperature from px1000:
Corrosion Complete Only.

Includes **Autolab PGSTAT302N** with **FRA32M** for Electrochemical Impedance Spectroscopy (EIS) and advanced modularity:

- **Electrochemical noise (ECN)**
- **Low current amplifier module (ECD)**
- Ultra-low current measurements (down to 30fA)
- Ultra-low noise to signal ratio when investigating high impedance coatings
- **Temperature pH and second voltage measurement**
- Accurate real-time pH and temperature measurements
- Powerful NOVA software
- 1 L ASTM corrosion cell (ASTMG5) including:
 - Two-way gas inlet
 - Thermostatic jacket
 - Thermometer 0 – 150 °C
 - Ag/AgCl reference electrode
 - Stainless steel counter electrode
 - Sample holder (1 cm²)
- **Pt 1000 temperature sensor**

In addition to the features of the Corrosion Compact, with the Corrosion Complete you can:

- Efficiently **perform complex experiments and analyze data** with one instrument, one interface
- **Validate experiments** using the modules to execute a wide range of corrosion techniques
- **Futureproof** your research with additional module expandability



NOVA software with **7 corrosion techniques** including built-in data analysis of corrosion rate, electrochemical noise and impedance spectroscopy



Data and analysis

- Measurement of polarization resistance from Linear Sweep Voltammetry (LSV) technique
- Measurement of polarization resistance from electrochemical impedance spectroscopy (EIS)
- Built in method for determination of corrosion current and potential
- Measurement of E_b (Break down or critical pitting potential) and E_p (protection potential)
- Monitoring open circuit potential (OCP)
- Built in method for electrochemical noise (ECN) analysis
- Corrosion rate measurement using electrochemical frequency modulation (EFM)

ASTM Standards

	Compact	Complete
G5: Standard Reference Test Method for Making Potentiodynamic Anodic Polarization Measurements	✓	✓
G61: Standard Test Method for Conducting Cyclic Potentiodynamic Polarization Measurements for Localized Corrosion Susceptibility of Iron-, Nickel-, or Cobalt-Based Alloys	✓	✓
G59: Standard Test Method for Conducting Potentiodynamic Polarization Resistance Measurements	✓	✓
G69: Standard Test Method for Measurement of Corrosion Potentials of Aluminum Alloys	✓	✓
G100: Standard Test Method for Conducting Cyclic Galvanostaircase Polarization	✓	✓
G102: Standard Practice for Calculation of Corrosion Rates and Related Information from Electrochemical Measurements	✓	✓
G106: Standard Practice for Verification of Algorithm and Equipment for	✓	✓
G150: Standard Test Method for Electrochemical Critical Pitting		✓
G199: Standard Guide for Electrochemical Noise Measurement		✓

Dedicated to research

www.metrohm.com/electrochemistry