



FOCUS TECH PROCESS CHEMICALS

Technical Data Sheet

NITROL EN-8000

Electroless Nickel Controller



Description

The EN-8000 Electroless Nickel Controller uses a field proven sample cool measurement technique that eliminates problems associated with measuring pH at elevated temperatures. The controller consists of two main sections, Control and Measurement. A microprocessor control system manages all system functions. A 16-character alpha numeric display is provided. Data is entered via a user friendly 5 key, keypad. The control section is housed in a Nema 4P corrosion resistant plastic enclosure. The Measurement section located below the control section houses a pH electrode, colorimeter sensor, and degasser. An external temperature sensor measures the sample temperature and shuts down the sample pump on over temperature (adjustable). A bellows pump for sample acquisition is provided and is controlled by the control section.

Control Features

Nickel is measured via a precision colorimeter. Measurements are displayed in grams per liter. A line voltage output is provided for pump control.

pH is measured using a proprietary pre-amp that eliminates problems with ground faults commonly associated with electroless baths. Automatic or manual temperature compensation is provided. A line voltage output is provided for pump control.

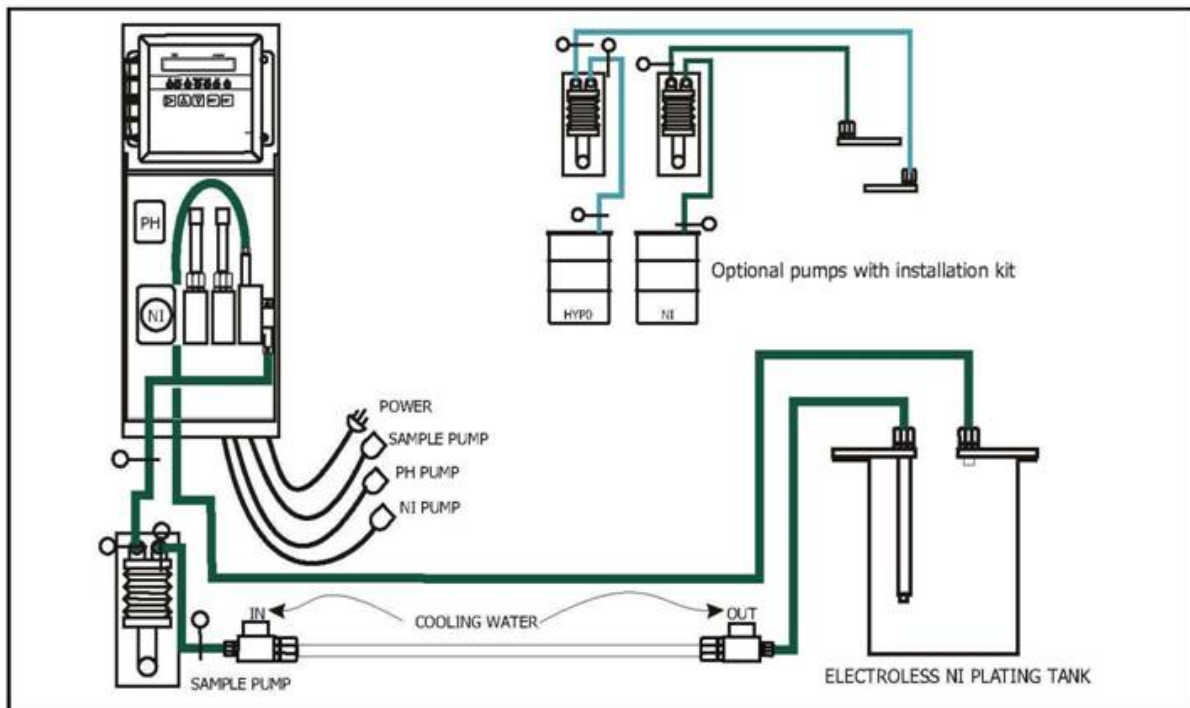
Mode of Operation

Under automatic control the unit energizes the sample pump and draws the electroless nickel solution into the cooling line. The sample is cooled statically, at the end of the cooling period the sample pump energizes and pumps the solution into the measurement section. During this cycle the controller continuously measures the temperature, if an over temperature condition is detected an alarm will sound and the sample pump will stop. At the end of the sample period the pH and Nickel concentrations are measured. The controller calculates the required addition and if required will energize optional dosing pumps for a period of time based on user adjustable set points. At the end of the measure and dose cycle an additional dwell time can be applied. The controller will continuously repeat the above cycle.

Typical Operating Ranges and Tolerances

Parameter	Common Ranges	Control Tolerance
Nickel	4.8 – 6.5 g/L	± 0.01 g/L
pH	4.6 – 5.2	± 0.01

Typical Installation:



Sample pump included with controller.

System Requirements

Electrical	120 VAC, 60Hz, 10 amps
Dimensions	24" X 10" X 8" (H X W X D)
Cooling water	

Options

Dosing pump kit
Data acquisition
220 VAC