

# Cyanco CCS<sup>®</sup> - CN<sub>WAD</sub> Analytical System

## Panel Mounted Model

TECHNICAL DATA SHEET  
CYN-TDS-APT-03

### What It Does

Cyanco developed the CCS<sup>®</sup> - CN<sub>WAD</sub> analytical system to measure and monitor the cyanide ion CN, and the cyanide complexes of Cu, Ni, Zn, Cd and Ag among other species that collectively are referred to as Weak Acid Dissociable Cyanide (CN<sub>WAD</sub>). The Cyanco CCS<sup>®</sup> - CN<sub>WAD</sub> analytical system not only records CN<sub>WAD</sub> concentration in a treatment circuit, but also allows for control of the addition of reagents required for cyanide detoxification in these effluents.

### How It Works

The Cyanco CCS<sup>®</sup> - CN<sub>WAD</sub> analytical system consists of two sections, as shown in the photo. On the left, the operator interface and data processing are at the top. The section that analyzes the sample includes the pumps for adding reagents and the detector to provide the CN<sub>WAD</sub> results. The panel to the far right is equipped with the sample pump and reservoir, which provides the clear sample used for the analysis.

The CCS<sup>®</sup> - CN<sub>WAD</sub> analytical system provides periodic weak acid dissociable cyanide analysis with a high degree of accuracy.

This system can be combined with a CCS<sup>®</sup> - CN<sub>Free</sub> system analyzer to achieve monitoring and additional control of sodium cyanide usage throughout the entire cyanide circuit from leaching through detoxification.

The output signal from CCS<sup>®</sup> can be analog/digital or Ethernet (TCP/IP) and can be used to control the cyanide detoxification reagent additions to closely achieve the desired set point. The signal from the control unit can be used to operate virtually any controllable valve through the mill's control system (DCS or PLC).



### CCS<sup>®</sup> - CN<sub>WAD</sub> Features:

- » Each CCS<sup>®</sup> - CN<sub>WAD</sub> analytical system unit is custom-designed to fit each customer's specific application.
- » Training of personnel is conducted during installation with refresher training available.

### CUSTOMER BENEFITS



**COST SAVINGS** Accurately monitoring and controlling reagent consumption reduces treatment costs and prevents overdosing.

**PROCESS EFFICIENCY** Precise analysis of CN<sub>WAD</sub> in effluent samples before and after treatment ensures accuracy. Repeatable results produced in under 30 minutes saves time and money.

**AUTOMATION** System minimizes the need for manual sample analysis, reducing turn-around times and employee costs, which contributes to further savings.

**COMPLIANCE** Monitoring the effluent treatment circuit ensures compliance with treatment targets such as those recommended by the International Cyanide Management Code.

**FLEXIBILITY** Also can be used with filtration system (included) on slurry samples.

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## General Design Specifications for Panel Mounted Unit

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The Cyanco CCS<sup>®</sup> - CN<sub>WAD</sub> analytical system is designed to produce clear solutions that can be analyzed for cyanide, and based on the analysis, control the cyanide and reagent additions. The CCS<sup>®</sup> - CN<sub>WAD</sub> analytical system unit will be custom designed for each application.

| CYANIDE ANALYSIS CAPABILITY |   |
|-----------------------------|---|
| Analytical methodology      | Incorporates free and weak acid dissociable cyanide species |
| Sampling point(s)           | Typically 1-2 sampling points with potential of up to four  |
| Maximum analysis frequency  | Approximately, one sample every 10 minutes                  |

| CONTROL AND SIGNALS |   |
|---------------------|---|
| Control point(s)    | Can provide signals to a DCS or PLC for reagent control                   |
| Control signal      | 4 - 20 mA signal and TCP/IP Ethernet Connection                           |
| Alarm signal        | Multiple digital alarm sensors, visual beacon and audible alarm available |

| HARDWARE                  |  |          |       |          |
|---------------------------|--|----------|-------|----------|
| Sample distance           | Overall maximum 100 feet, 30 feet maximum vertical elevation |          |       |          |
| Sampling probe            | Sample filter and assembly are provided                      |          |       |          |
| DIMENSIONS: (APPROXIMATE) | HEIGHT   | WIDTH    | DEPTH | WEIGHT   |
| Sample Panel              | 48 inches  | 30 - 54" | 8"    | 100 lbs. |
| Analyzer                  | 37 inches  | 26"      | 24"   | 125 lbs  |

| SERVICES REQUIRED FROM CUSTOMER AT THE TIME OF INSTALLATION  | REQUIRED REAGENTS   |
|--|---|
| Services of an electrical technician for CCS <sup>®</sup> - CN <sub>WAD</sub> and signal wiring  | Cyanco CN <sub>WAD</sub> reagents   |
| Services of a mechanical technician for mounting the panels on Unistrut-like supports and sample probe bracket construction and installation | 5 L NaOH-1M (1-2 ml per assay)  |
| Power to CCS <sup>®</sup> - CN <sub>WAD</sub> Unit: 110V, 3 Phase, 60Hz, 20A   | 5L HNO <sub>3</sub> -1M (10-20 ml per day in average)   |
| Services of an I&E or IT technician for ethernet and remote access installation <i>(if option is used)</i>                                   | 25L potable H <sub>2</sub> O, without suspended solids, cyanide or chlorides (50-100ml per assay) |

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