cyanco

Cyanco CCS® - CN_{Free} Control System

Panel-Mounted Model

TECHNICAL DATA SHEET

CYN-TDS-APT-04

APPLIED TECHNOLOGY

What It Does

Cyanco's CCS® Cyanide Control Systems accurately control leaching processes by analyzing free cyanide, minimizing interference from other cyanide complexes. The CCS® unit enables continuous adjusting and monitoring of cyanide levels during leaching. Automated monitoring and control of cyanide levels means more predictable results, more accurate forecasts and better use of resources.

How It Works

The cyanide control and dosing equipment, designed by Cyanco, consists of a filtration unit and an online cyanide analyzer/control. The filtration unit produces a continuous flow of solid-free leach solution. The filtration assembly is designed to prevent solids accumulation in the filter, and only requires infrequent cleaning.

The CCS® provides periodic cyanide analysis with a degree of accuracy not found with manual titration. Cyanide is analyzed using an automatically controlled silver nitrate titration with potentiometric endpoint indication. The instrument has been designed to analyze free cyanide with minimal interference from other cyanide complexes.

The output signal from CCS® can be analog/digital or Ethernet (TCP/IP) and can be used to control cyanide addition to closely reflect the set point desired. 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® Features:

- Provide up to 6-8 analyses per hour
- Handle up to four separate streams
- Each unit is design for your specific production process
- Meets UL® specifications

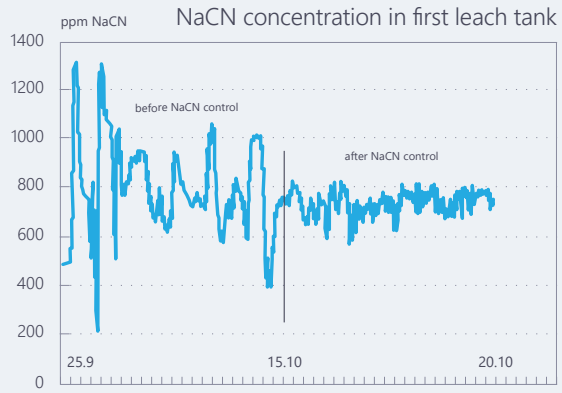
CUSTOMER BENEFITS

COST SAVINGS Avoid waste and reduce detoxification costs

PROCESS EFFICIENCY Benefit from more predictable use of cyanide, improved forecasting and better use of resources

BETTER CYANIDE UTILIZATION Reduce the fluctuations of cyanide concentrations (see graph) to prevent cyanide overdosing and gold/silver losses due to low cyanide concentrations in the leach

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



Cyanco | 2245 Texas Drive, Suite 500, Sugar Land, TX 77479 t: 832.590.3641 f: 832.436.5202 www.cyanco.com

Certified according to the International Cyanide Management Code

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Revised on: 10-04-22

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The Cyanco CCS® (Cyanide Control System) is designed to produce clear solutions that can be analyzed for cyanide, and based on the analysis, control the cyanide addition.

CYANIDE ANALYSIS CAPABILITY	
Analytical method	Silver nitrate titration with a potentiometric endpoint
Sampling point(s)	Up to four (4) sampling points
Maximum analysis frequency	Approximately one sample every 8-10 minutes, depending on setup

CONTROL AND SIGNALS	
Control point(s)	Can provide signal to a mill 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 pumps and reservoirs provided with filters			
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
Services of an electrical technician for CCS® - CN_{WAD} and signal wiring
Services of a mechanical technician for mounting the panels on Unistrut-like supports and sample probe bracket construction and installation
Power to CCS® - CN_{WAD} Unit: 110V, 3 Phase, 60Hz, 20A
Services of an I&E or IT technician for ethernet and remote access installation *(if option is used)*

REQUIRED REAGENTS
5 L $AgNO_3$-0.1N (1-10ml per assay)
5 L NaOH-1M (1-2 ml per assay)
5L HNO_3-1M (10-20 ml per day on average)
25L potable H_2O, without suspended solids, cyanide or chlorides (50-100ml per assay)