

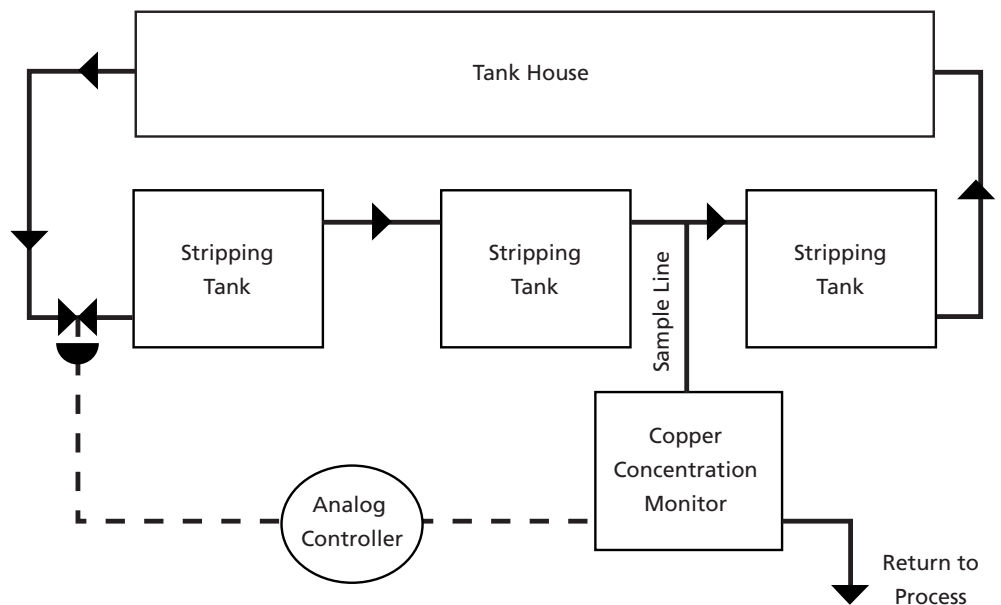


Continuous online monitoring for copper electro-refining

The Copper Concentration Monitor is a rugged online process solution that automates the control of the copper stripping process, removing the need for manual chemical analysis during electro refining. It continuously monitors copper concentration in electrolyte enabling:

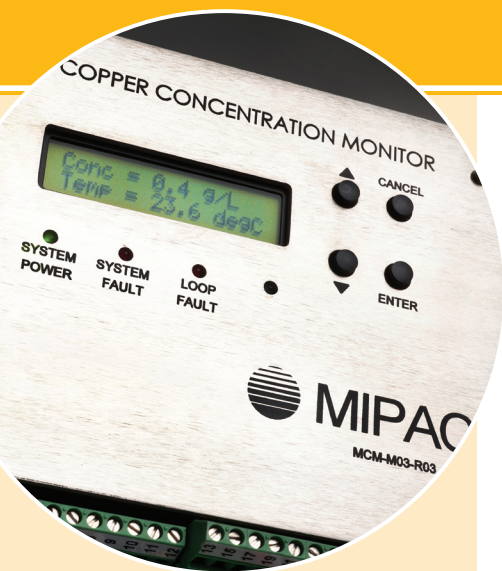
- constant levels within the tanks, reducing the chance of unsafe hydrogen gas production
- minimal human intervention and integration with the wider plant control systems increasing efficiency, reducing operations costs and improving the quality of production

Typical applications for the monitor include controlling the concentration of copper in electrolyte by adjusting the flow through the stripping tanks. Operating at incorrect levels of copper in tank house electrolyte can result in dangerous levels of hydrogen gas being produced.



The Copper Concentration Monitor is cost effective, easy to install and is proven at a number of major refineries around the world. It offers continuous measurement and is low maintenance, corrosion resistant and weatherproof.

- Increase your productivity
- Improve your production quality
- Grow your profit margins



Copper Concentration Monitor Specifications

Power Supply:	110 to 240 VAC, 50/60 Hz
Measurement Ranges :	0 to 20 and 10 to 60 grams per litre Copper
Resolution	0.1 grams per litre
Accuracy	± 2% of full range
Inputs and Outputs:	Analog Output: 1 x 4 to 20 mA isolated output Digital Output: 1 x relay contact Digital Input: 2 x relay contact
Enclosure Rating :	IP65
Temperature Rating :	Measuring and Electronics Cabinets -10°C to 65°C Electrolyte Temperature +20°C to 85°C
Pressure Rating :	Maximum electrolyte pressure 10kPa
Corrosion Protection :	Enclosures are resistant to acid fumes, acid and water splash.

MIPAC – Helping you achieve operational excellence through superior Process Control

More than 20 Copper Concentration Monitors are in operation in copper refineries throughout the world. Customers include

- Sterlite Industries, India (Silvassa and Tuticorin Refinery)
- Birla Copper, India
- NICICO, Iran
- NIRU, Iran
- Hellenic Copper Mines, Cyprus
- Mount Gordon, Australia
- Girilambone Copper, Australia
- Great Australia Mine, Australia
- Copper Refineries Ltd, Australia
- Tati Nickel, Botswana
- Phelps Dodge, USA

MIPAC is a respected provider of process control, instrumentation and electrical engineering solutions to major, complex processing and production facilities. MIPAC specialises in industries such as minerals processing, food & beverage production or pulp & paper. We serve renowned companies such as Xstrata, and BHP Billiton and have received a number of prestigious industry awards for our projects and technology. MIPAC employs some of the industry's most talented process control engineers and we have worked on more than 100 projects in over a dozen countries.

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