SUPERIOR FILTRATION

CASE STUDY

KLEERFLO: AUTOMATIC SELF-CLEANING FILTER QUELLAVECO COPPER MINE – FLUIDISATION WATER

Client: Anglo-American – Quellaveco Copper Mine
Industry: Mining & Mineral Processing
Region: Moquegua region of Peru
Product: Kleerflo Automatic Self-Cleaning Filter – 6 x CS6E4/2000/40 DA BB
Installation: 2024

Challenge

- Anglo American's Quellaveco Copper Mine is one of the largest and most well-known copper mining projects in the world
- They use Eriez **CrossFlow®** hydraulic classifiers and Eriez **HydroFloat®** coarse particle flotation cells in their recovery processes (efficiently scavenging coarse material from the Quellaveco concentrator rougher tailings)
- **CrossFlow®** and **HydroFloat®** Separators require the introduction of teeter water
- Blocked teeter water pipes cause production delays (when the production lines must be shut down to remove and unblock pipes) and significant sub-optimal recovery/efficiency (when the units are operated with some of their outlets blocked)
- In addition, the control- and instrumentation equipment required to operate the separators are also subject to orifice blockages when fed with dirty water. This leads to further inefficiencies and additional downtime
- During the initial operational phase of the CPF project at Quellaveco, blockages in the teeter water pipes and issues with control and instrumentation equipment caused significant problems
- It soon became evident that fluidisation water strainers were required to ensure that oversized particles never block the teeter water pipes.

Application

- Primary Filtration – Filtration of Fluidisation Water for Coarse Particle Flotation process
- Filtration of raw feedwater to remove oversize particles, preventing blockages in the teeter water pipes.

Solution

- The inherent simplicity of the **Kleerflo** strainer design combined with the peace of mind of a 40+ year track record in similarly demanding mining environments appealed to DRA (the project engineers) and Anglo American
- Superior Filtration engineers collaborated with the client to specify the correct models and ensure the installation configuration was fit for purpose
- Supply included control and instrumentation housed in a Nema4x enclosure
- Current installed units:
  - Kleerflo Automatic Self-Cleaning Strainers
    - 6 x **CS6E4/2000/40 DA BB**
    - Processing a combined total of **5 600 m³/h** water
  - Key Features that make Kleerflo automatic self-cleaning strainers uniquely suitable for this demanding mining application:
    - no rotating parts
    - very few moving parts
    - no close tolerance elements
    - no electric motor
    - effective removal of oversize solids
    - simple maintenance procedures
    - high-quality, durable, stainless steel wedge wire screens.

Results

- The client subjected the strainers to a 50-day performance review
- The outcome was that Kleerflo strainers effectively removed oversized solids to prevent blockages in the teeter water pipes
- The result is increased uptime and improved recovery efficiency
- Inherent simplicity and rugged design ensure low maintenance costs and high in-service time.

Client experience

"The filter installation is performing according to our expectations for what was designed. Thanks for all your support."
Luis Roman: Director & Senior Manager – Operations & Processing

t: +27 11 789 4110 **e:** info@superior-filtration.com
w: www.superior-filtration.com
Johannesburg | Cape Town | London