TECHNIP ENERGIES

Krebs Mixer-Settlers

Technology for solvent extraction since 1976
The most compact mixer settler in the market

With over 45 years of worldwide success, our proprietary Krebs Mixer-Settler technology delivers efficient solvent extraction for mining, chemical processing, and battery recycling, handling flows from 10 to 3,000 m³/h reliably across diverse applications.



Uranium extraction, Canada

Operation principle

The Krebs Mixer-Settler uses a unique conical pump with a shared rotating shaft for the impeller and pump blades (“rotor”), rotating against a fixed cone (“stator”). This design improves mixing, liquid transfer and separation efficiency.



KREBS Mixer-Settler Pilot

Technical & testing services

We provide technical services such as CFD simulations, 3D model design and pilot tests in our facilities, targeting our clients’ expectations and driving the evolution of our technology.

Technology Features

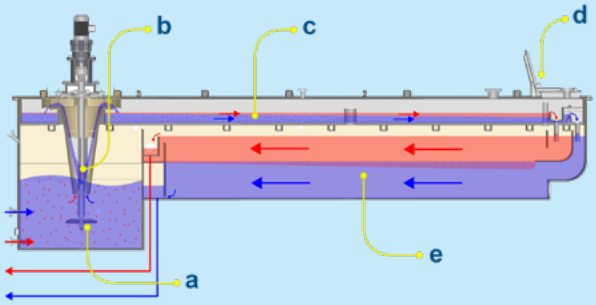
a. Low shear impeller for the organic phase and the aqueous phase mixing

b. Conical pump for liquid transfer (lifting) from the mixer to the launder and initial separation of these two phases

c. Superposed launder to continue the separation of the two phases

d. Removable hatches to access launder and settler

e. Settler for the final separation of the two phases



Major advantages

Design reliability
- Over 500 installed equipment
- Low shearing to reduce organic entrainment

Low CAPEX and OPEX
- Smaller settling area (reduced by 50 to 75%)
- Substantial savings in solvent inventory
- Only one motor per mixer-settler
- Easier transportation and reduced site work

Enhanced safety
- Mixer-settlers totally covered
- Fire and static electricity protection

Simplified and compact layout
- All piping at one end
- Head-to-head configuration
- Reduced interstage and recycle piping
- Reduced electrical and instrumentation cables runs
- No flowrate control and regulation between stages

Technical & testing services
- Tailor-made technology design
- Pilot-testing services
- Settling area optimization, phase continuity check

Main applications



Uranium extraction, Canada



Uranium extraction, Canada



Uranium extraction, Canada



Nickel & cobalt, Japan



Nickel & cobalt, New Caledonia



Nickel & cobalt, Uganda

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