PRODUCT DATASHEET

Mixer-Settler Solvent Extraction Train

12-stage mixer-settlers for metal separation





DETAIL – CONTROL PANEL

OVERVIEW

The Tech Inc. Mixer-Settler Solvent Extraction Train separates individual metals from a purified leach solution. In each stage, the aqueous metal solution is mixed with an organic solvent that picks up one metal, and the two layers then separate in the settler.

MODELS AND CONFIGURATIONS

- **TI-SX-12** – 12-stage mixer-settler solvent extraction train.
- **Multiple trains** – a separate train for each metal separation in the flowsheet.
- **Section split** – extraction, scrub and strip stages arranged to the client's chemistry.

TYPICAL DESIGN DATA

Stages	Typically 12 per TI-SX-12 train, or to client specification
Flow rates and organic-to-aqueous ratio	Sized to the duty, or to client specification
Extractant and diluent	To the client's flowsheet
Materials	Polypropylene, fibre-reinforced plastic (FRP) or stainless steel, to client specification
Mixer drives	Variable speed, with mixing intensity set for each stage
Settler sizing	For clean phase disengagement at design flow
Safety	Covered settlers, ventilation, earthing and fire protection for solvent service, to client specification

APPLICATIONS

Battery-recycling hydrometallurgy, separation of nickel, cobalt and lithium, purification of leach solutions, copper and cobalt solvent extraction, and rare-earth separation.

KEY ADVANTAGES

- **Clean separation** – generous settler area gives clear phase disengagement and low entrainment
- **Stable operation** – each stage runs at its own mixing intensity and interface level
- **Flexible flowsheet** – the split between extraction, scrub and strip is set to the chemistry
- **Reduced solvent loss** – covered settlers and crud handling limit organic losses
- **Easy access** – the open stage layout allows inspection and sampling of every stage

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**

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