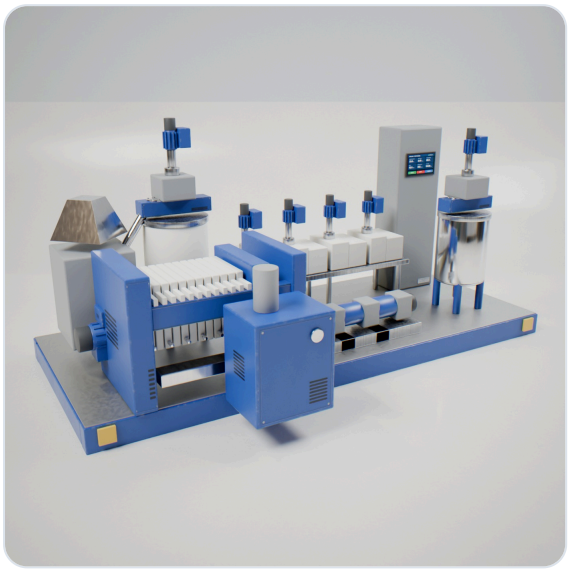
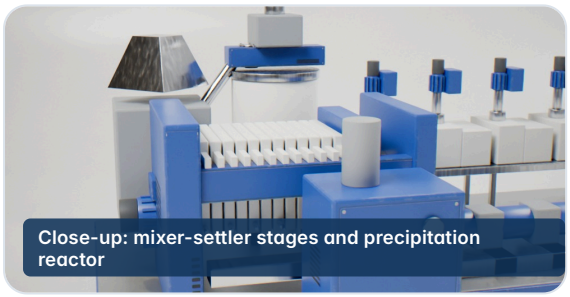
PRODUCT DATASHEET

Rare-Earth Magnet Recycling Leach and Extraction Line

Leach, solvent-extraction and precipitation lines that recover rare earths from magnets

Product page





Close-up: mixer-settler stages and precipitation reactor

OVERVIEW

The Tech Inc. Rare-Earth Magnet Recycling Leach and Extraction Line recovers neodymium, praseodymium and dysprosium from scrap neodymium-iron-boron magnets. After demagnetising and crushing, the magnet material is leached in acid, iron is removed, the rare earths are separated by solvent extraction in mixer-settlers, and they are precipitated as oxalates for calcining to oxides.

TYPICAL DESIGN DATA

Feed	Scrap NdFeB magnets and swarf
Products	Rare-earth oxalates or oxides
Materials	PP, PVDF, FRP and lined steel
Codes and standards	Electrical to IEC 60204-1; tanks and pipework to the client's specification
Solvent extraction	Mixer-settler stages in PP or PVDF
Emissions	Scrubbers for acid fumes
Control	PLC with batch records

MODELS AND CAPACITIES

- **TI-REM-P** – pilot, about 10 to 50 kg per batch
- **TI-REM-SX** – solvent-extraction pilot
- **TI-REM-1** – about 1 t/day
- **TI-REM-L** – laboratory set

Indicative capacity.

ORDERING CODE

Example **TI-REM-P**: **P** type: P, 1, SX or L.

SCOPE OF SUPPLY

Included: factory acceptance test with a written report; drawings for approval, material certificates and manual.
Options: extra extraction stages; effluent treatment; laboratory set; installation.

KEY ADVANTAGES

- **Complete wet line** – leach to oxalate
- **Proven blocks** – leach, filtration and SX trains
- **Acid-proof** – PP, PVDF and lined
- **Records** – mass balance per batch

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**
Offices: Chennai · Toronto · Tallinn · Al Khobar
mail@techincresearch.com · +1 (289) 622-1032 · www.techincresearch.com

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