PRODUCT DATASHEET

Spent-Catalyst Metal Recovery Pilot Plant

Pilot plants that recover molybdenum, vanadium, nickel and cobalt from spent catalysts

Product page





Close-up: alkaline leach reactor and filter

OVERVIEW

The Tech Inc. Spent-Catalyst Metal Recovery Pilot Plant recovers molybdenum, vanadium, nickel and cobalt from spent hydroprocessing catalysts. The catalyst is de-oiled and roasted, molybdenum and vanadium are leached with alkali and separated by precipitation or ion exchange, and nickel and cobalt are recovered from the residue by acid leaching, so refiners and recyclers can prove a route before building a plant.

TYPICAL DESIGN DATA

Feed	Spent hydrotreating and hydrocracking catalysts
Metals	Molybdenum, vanadium, nickel, cobalt
Steps	De-oil, roast, alkaline leach, separation, acid leach, precipitation
Codes and standards	Pressure parts to ASME VIII where applicable; electrical to IEC 60204-1
Materials	Stainless, alloy and lined steel as required
Emissions	Scrubber for roasting gases
Records	Mass balance per batch

MODELS AND CAPACITIES

- **TI-SCR-L** – laboratory set
- **TI-SCR-50C** – about 50 kg/h continuous
- **TI-SCR-25** – about 25 kg per batch
- **TI-SCR-DP** – design package

Indicative capacity.

ORDERING CODE

Example **TI-SCR-25**: **25** type: L, 25, 50C or DP.

SCOPE OF SUPPLY

Included: factory acceptance test with a written report; drawings for approval, material certificates and manual.
Options: continuous operation; ion-exchange separation; laboratory set; design package for production.

KEY ADVANTAGES

- **Four metals** – Mo, V, Ni and Co
- **Mass balance** – every stream measured
- **Scales up** – pilot to design package
- **Clean** – roasting gases scrubbed

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