PRODUCT DATASHEET

# Vanadium Recovery and Electrolyte Make-Up Skid

Skids that leach, purify and make up vanadium electrolyte for flow batteries

Product page





Close-up: dissolution reactor and make-up tank

## OVERVIEW

The Tech Inc. Vanadium Recovery and Electrolyte Make-Up Skid turns vanadium-bearing ash, spent catalyst leachate or vanadium pentoxide into electrolyte for vanadium redox flow batteries. Vanadium is dissolved in sulphuric acid with a reducing step, impurities are removed by filtration and precipitation, and the solution is adjusted to the required concentration and oxidation state in lined tanks, with sampling for quality control.

## TYPICAL DESIGN DATA

| | |
|---|---|
| **Electrolyte** | Vanadium in sulphuric acid |
| **Materials** | PVDF, PP, FRP and lined steel |
| **Temperature** | To about 90 °C during dissolution |
| **Codes and standards** | Tanks and pipework to the client's specification; electrical to IEC 60204-1 |
| **Filtration** | Filter press or cartridges |
| **Quality control** | Sampling for concentration and oxidation state |
| **Control** | PLC with batch records |

## MODELS AND CAPACITIES

- **TI-VES-1** – about 1 $m^3$
- **TI-VES-5** – about 5 $m^3$
- **TI-VES-20** – about 20 $m^3$
- **TI-VES-R** – rebalancing skid

Indicative batch size.

## ORDERING CODE

Example **TI-VES-5-R**: **5** batch size, $m^3$; **R** feed: P pentoxide, R recovery from ash or leachate.

## SCOPE OF SUPPLY

**Included:** factory acceptance test with a written report; drawings for approval, material certificates and manual.
**Options:** rebalancing module; storage tanks; laboratory set; installation.

## KEY ADVANTAGES

- **Acid-proof** – PVDF, PP and lined
- **Recovery** – from ash or leachate
- **Quality** – sampling for concentration and state
- **Records** – per batch

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