PRODUCT DATASHEET

NMP Solvent Recovery Unit

Condensation and distillation of NMP from electrode-coating lines

Product page





Close-up: distillation column

OVERVIEW

The Tech Inc. NMP Solvent Recovery Unit recovers N-methyl-2-pyrrolidone (NMP) from the dryer exhaust of battery electrode-coating lines. The vapour is cooled and condensed, the condensate is distilled back to coating grade, and the solvent returns to the slurry mixers.

TYPICAL DESIGN DATA

Recovery	Typically above 95% of the NMP in the exhaust, by design
Product purity	Distilled to the coating-grade specification agreed with the client
Materials	316L wetted parts
Codes and standards	ASME VIII Div. 1 for vessels; ASME B31.3 for piping; electrics to the site classification
Distillation	Vacuum column with packed internals
Utilities	Chilled water, steam or electric heating, compressed air
Control	PLC with interlocks, quality sampling and data logging

MODELS AND CAPACITIES

- **TI-NRU-P** – pilot line, about 500 to 2,000 m³/h exhaust, a few kg/h NMP
- **TI-NRU-20** – about 20,000 m³/h exhaust, about 200 kg/h NMP
- **TI-NRU-5** – about 5,000 m³/h exhaust, about 50 kg/h NMP
- **TI-NRU-50** – about 50,000 m³/h exhaust, about 500 kg/h NMP

Indicative exhaust air flow and NMP recovery rate; sized to the coater.

ORDERING CODE

Example **TI-NRU-5-CD**: **5** size: exhaust flow in thousand m³/h (P for pilot); **CD** scope: C condensation, D distillation, CD combined.

SCOPE OF SUPPLY

Included: factory acceptance test with a written report; drawings for approval, material certificates and manual. **Options:** heat recovery to the dryer air; online purity measurement; pilot-line version; storage and return pumps; remote support.

KEY ADVANTAGES

- **Lower solvent cost** – NMP returns to the mixers
- **Lower emissions** – exhaust cleaned before release
- **Sized to the coater** – from pilot lines up
- **Coating grade** – distilled and checked before reuse

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

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