TORONTECH

ROTARY EVAPORATOR

A rotary evaporator is a laboratory instrument designed to gently and efficiently remove solvents from samples by evaporation.

Commonly used in chemical, pharmaceutical, and academic research laboratories, rotary evaporators are essential for processes such as solvent recovery, sample concentration, and purification.

Their ability to perform evaporation under reduced pressure makes them ideal for handling heat-sensitive substances while minimizing the risk of degradation.

Why Choose Torontech Rotary Evaporators?

1. **Wide Variety**: Models to suit every scale and application.
2. **Advanced Features**: Energy-efficient designs with modern safety standards.
3. **Reliable Performance**: Built for consistent and accurate results.
4. **Global Support**: Expert technical assistance and customer care.

Whether you're in need of a high-capacity rotary evaporator for industrial production or a compact system for your laboratory, Torontech's range ensures optimal performance and results.

Contact us today to explore the instrument and how they can support your evaporation needs.

Compare Rotary Evaporator Models

Side-by-side comparison grouped by scale to help users choose faster.

Industrial and High-Capacity

Feature	Rotary Evaporator 100L
Scale category	High-capacity / industrial
Best for	Large-volume solvent recovery and high-throughput evaporation
Typical users	Production environments, pilot production lines, industrial labs
Why choose	When your workflow needs very high capacity rather than compact footprint

Bench-top and Lab-scale

Feature	AVR-001	EV-52A / EV-52C / EV-5299	EV-201D / EV-301 / EV-501	EV-2000 / EV-3000 / EV-5000	Lab-scale Rotary Evaporator
Scale category	Bench-top	Bench-top (model series)	Bench-top (model series)	Bench-top (model series)	Lab-scale
Best for	General lab evaporation and routine solvent recovery	Routine lab workflows needing flexible bench configurations	Routine lab workflows with broader model options	Bench-top setups where you need higher capacity than basic models	Labs needing more capacity than bench-top, but not full pilot scale

Feature	AVR-001	EV-52A / EV-52C / EV-5299	EV-201D / EV-301 / EV-501	EV-2000 / EV-3000 / EV-5000	Lab-scale Rotary Evaporator
Typical environments	Academic and R&D labs	QC, R&D, chemical labs	QC, R&D, chemical labs	R&D, scale-up experiments, lab production support	R&D scale-up, method development, higher-volume lab processing
Footprint priority	Compact bench setup	Compact to medium (depends on configuration)	Compact to medium (depends on configuration)	Medium (bench + higher capacity)	Medium to large (lab-scale system)
Selection tip	Pick if you need a straightforward bench-top evaporator	Pick if you want common bench-top choices in one series	Pick if you need model range within the series	Pick if you need higher output while staying bench-based	Pick when bench-top is limiting your throughput

Pilot-Scale Systems

Feature	EV-1002 / EV-2002 / EV-3002 / EV-5003	EV-1005 / EV-1010 / EV-1020 / EV-1050	R-1005 / R-1050 / R-2020Ex / R-2050Ex
Scale category	Pilot-scale (EV series)	Pilot-scale (EV series)	Pilot-scale (R series)

Feature	EV-1002 / EV-2002 / EV-3002 / EV-5003	EV-1005 / EV-1010 / EV-1020 / EV-1050	R-1005 / R-1050 / R-2020Ex / R-2050Ex
Best for	Scale-up evaporation and solvent recovery beyond lab-scale	Scale-up evaporation and solvent recovery beyond lab-scale	Pilot-scale work in demanding environments (includes Ex models)
Typical environments	Pilot plants, process development, production support labs	Pilot plants, process development, production support labs	Pilot plants and process environments requiring Ex options
Selection tip	Choose this EV set based on your target capacity range	Choose this EV set based on your target capacity range	Choose when you need Ex-rated options or this R-series configuration

APPLICATIONS

Applications of Rotary Evaporators

Rotary evaporators are used in a wide range of industries, including:

1. **Chemical and Pharmaceutical Research**: For distillation, crystallization, and synthesis of chemical compounds.
2. **Food and Beverage**: To concentrate flavors, extract necessary oils, and analyze food components.
3. **Environmental Testing**: For solvent extraction in pollutant analysis.
4. **Academic Research**: Aiding in organic synthesis and analytical chemistry experiments.

Torontech's Range of Rotary Evaporators

Torontech offers a comprehensive selection of rotary evaporator for sale, tailored to meet diverse laboratory and industrial needs. Whether you require a compact bench-top model, a versatile lab-scale system, or a robust pilot-scale unit, Torontech has the right solution. Our rotary evaporator machines are designed for high performance, safety, and ease of use, with features such as precise temperature control, advanced vacuum systems, and durable construction.

FEATURES

1. Gentle Solvent Removal
By evaporating under vacuum at a low bath temperature, the rotary evaporator removes solvent without overheating heat-sensitive samples.

2. Rotating Evaporation Flask
Rotation spreads the sample as a thin film over the flask wall, which increases the surface area and speeds evaporation while preventing bumping.

3. Efficient Condenser
A cooled condenser recovers the evaporated solvent quickly, which improves recovery and keeps the process clean.

4. Controlled Heating Bath
A precise water or oil bath holds the chosen temperature steadily for consistent, repeatable distillation.

5. Vacuum Compatibility
The system works with a vacuum pump and controller to lower the boiling point, which allows faster evaporation at gentler temperatures.

6. Easy Flask Handling
A motorized or manual lift raises and lowers the flask into the bath safely, which simplifies setup and cleaning.

THEORY & METHOD

How Rotary Evaporators Work

The rotary evaporator consists of a rotating flask that holds the sample, a water bath to provide controlled heating, a condenser to cool and collect the evaporated solvent, and a vacuum system to reduce pressure and lower the boiling point of the liquid. This design enables rapid solvent removal while helping protect heat-sensitive samples.

As the flask rotates, the liquid spreads into a thin film over the inner wall, which increases surface area and speeds evaporation. The reduced pressure allows the solvent to boil at a lower temperature, and the vapor then passes to the condenser where it cools and is collected in a receiving flask. This combination of rotation, mild heat, and vacuum improves evaporation efficiency while reducing bumping and thermal degradation.

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