FACT SHEET

Green features

ART Pipette Tip Reload Towers and Inserts

Green benefits

- Less waste/use of fewer resources: 18–54% less waste compared to hinged racks

Introduction

We are committed to designing our products with the environment in mind—it's part of how we enable our customers to make the world healthier, cleaner, and safer. This fact sheet provides the rationale behind the environmental claim that the Thermo Scientific™ ART™ Reload Pipette Tip Towers and Inserts use 18–54% less source material and therefore generate less waste in the laboratory compared to conventional hinged rack pipette tips.

Product description

Thermo Scientific™ ART™ Barrier Tips, made from high-purity polypropylene, offer complete protection for the pipette, the sample, and ultimately for experimental results by not allowing cross-contamination, due to the proprietary self-sealing barrier design. The ART tips are also available in a non-filtered version, made with the same high-quality resin and manufacturing process, allowing a lab to standardize on one universally fitting tip brand for all of the pipettes used in a lab.

The easy-to-use ART Reload Towers stack 5 trays of tips in a minimal amount of space, using offset holes in the trays to consolidate tips into a sterile blister sleeve that guides the tip inserts for a smooth transfer into the rack. The sterile blister pack of the ART Reload Insert provides a single tray of ART tips to be inserted into the empty, reusable ART rack. The ART tip racks and inserts are made of polypropylene and are 100% recyclable.

Green features

Less waste and use of fewer resources

The ART Reload Towers and Inserts are designed with laboratory efficiency and sustainability in mind. Not only do they take up less valuable space on the shelf, but they also generate less plastic waste (Table 1). For example, the ART Reload Towers provide 10 racks of tips using only 870 g of material (for the 200 µL size) compared to 1,590 g for 10 hinged racks of the same style.

This represents a 45% reduction in plastic waste. The ART Reload Towers for 20 µL and 1,000 µL tips generate 53% and 54% less waste, respectively. Compared to hinged racks, the ART Reload Inserts also generate less waste—23% for the 200 µL size, 25% for the 20 µL size, and 18% for the 1,000 µL size. This means less total waste to be managed in the lab, supporting local sustainability programs and helping our customers save money.

As an added benefit, the ART Reload Towers take up only 236–359 cu. in. of shelf space, compared to 525–576 cu. in. for the equivalent number of hinged racks (Table 2). This represents a reduction of up to 55%, which translates to more storage space in the lab, as well as increased freight density—reducing greenhouse gases associated with transport.

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Table 1. Comparison of waste generated from ART Reload Inserts (RI) and Reload Towers (RT) vs. conventional hinged racks (HR) in 3 representative sizes. For weight measurements, barrier tips were used as representative, and per-box measurements were used to account for differences in units per package. Package weights include box and inserts. Per-rack weights are the individual units, with the exception of RT, where the total weight was divided by the number of units. The percentage of reduction was determined using the package weights, representing total waste generated.

Tip size (µL)	Weight (g)		Reduction (%)	Cat. No.
	Package	Per rack		
20	1,504	132	–	2149-HR
	1,127	88	25%	2149-RI
	708	71	53%	2149-RT
200	1,590	142	–	2069-HR
	1,220	96	23%	2069-RI
	870	87	45%	2069-RT
1,000	1,830	229	–	2179-HR*
	1,501	188	18%	2179-RI*
	1,057	106	54%	2179-RT

* 2179-HR and 2179-RI contain 8 racks, rather than 10 for the other packages. Therefore, percent reduction for the 1,000 µL size was determined on a per-rack basis.

Table 2. Comparison of ART Reload Tower (RT) storage space requirement (volume) vs. conventional hinged racks (HR) in 3 representative sizes.

Tip size (µL)	Length (in.)	Width (in.)	Height (in.)	Volume (cu. in.)	Reduction (%)	Cat. No.
20	7.0	5.0	15.0	525	–	2149-HR
	7.0	5.0	6.8	236	55%	2149-RT
200	7.0	5.0	15.0	525	–	2069-HR
	7.0	5.0	8.5	298	43%	2069-RT
1,000	7.8	7.3	10.3	576	–	2179-HR*
	7.0	5.0	10.3	359	50%*	2179-RT*

* Volume comparison for 1,000 µL size was made on a per-rack basis, since 2179-RT contains 10 racks whereas 2179-HR contains only 8 racks.

ART Reload Towers for 20 µL and 1,000 µL tips generate **53% and 54% less waste**, respectively.

Find out more at **thermofisher.com/artpipettetips**

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