

Achieving accurate and reproducible results with Samco Capillary Transfer Pipettes

Fast, easy, and accurate liquid collection and dispensing

With an innovative design, Thermo Scientific™ Samco™ Capillary Transfer Pipettes are well suited for collecting and dispensing pre-set microliter-scale liquid samples.

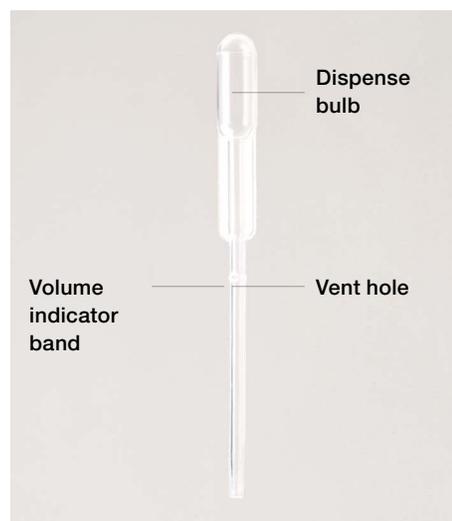
Introduction

With the precise task of analytical measuring, it's crucial for the product used to deliver accurate and reproducible results. Therefore, a three day study was performed by two technicians to determine the accuracy and reproducibility of the Samco Capillary Transfer Pipettes when collecting and dispensing liquid samples.

Before starting the procedure, the density ratio had to be calculated to adequately convert measured weights to volume of sample transferred to the analytical scale by the transfer pipette. After warming the sample matrix to 37°C, the density ratio of the matrix to water was 1.052.*

Technique

Droplets of sample matrix were placed onto a gloved hand and then collected using a horizontally placed capillary transfer pipette. Once the sample matrix filled the indicator band of the capillary transfer pipette and stopped drawing automatically (requiring seconds), the matrix was transferred tip down to the analytical scale to measure its weight.** The collected matrix was deposited by depressing the bulb of the capillary transfer pipette onto a tared dish. After the analytical scale was stabilized, the weight was recorded and the scale tared for the next measurement.



Results

The accuracy of the volume transferred by the Samco Capillary Transfer Pipettes demonstrated to be within 4.5% of the specified volumes, providing users with a relatively accurate tool in comparison to manual pipettes that may provide ~2% accuracy, but at a higher cost. In addition, their use was found to be very reproducible within day-to-day use, as well as between technicians, producing percent correlation-of-variations of less than 5.5%. Overall, the Samco Capillary Transfer Pipettes achieved accurate and reproducible results, providing excellent performance for the value.

The mean, percent accuracy (25 µl and 50 µl expected) and reproducibility for the entire study, inter-day and inter-technician are presented in the product performance table.

*Determined by measuring the weight of various subtracted volumes of both water and the sample matrix on a calibrated analytical scale (precision = 0.1 mg)

**No clogging was observed during the collection and transference of the sample matrix.

Product Performance

Capillary vol., μ l	Technicians	Days	Samples	Mean	% Accuracy	Reproducibility (% CV)		
						Study	Inter-day	Inter-tech
25 μ l	2	3	118	25.67 μ l	2.70	5.28%	5.47%	5.10%
50 μ l	2	3	87	52.26 μ l	4.52	3.84%	3.78%	3.92%

Ordering information

Draw	Stem length	Stem diameter	Qty per bag	Qty per pack	Qty per case	Cat. No.
25 μ l	2.26 cm	2.34 mm	100	500	5,000	1028-100
50 μ l	3.87 cm	2.34 mm	100	500	5,000	1029-100

Find out more at
thermofisher.com/capillarytransferpipettes