

# Performance Testing for Axygen® Automation Tip (VT-250-R)

## Application Note



### Method

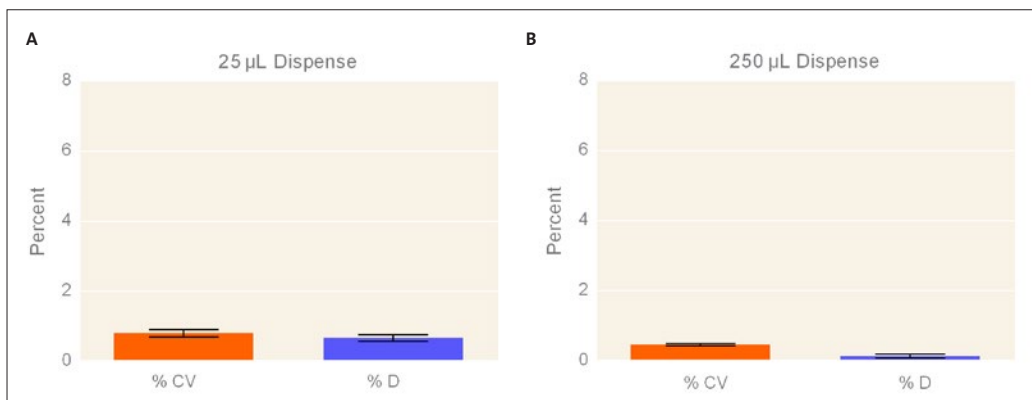
The Agilent® Bravo/Velocity11 liquid handling platform was used to assess precision, as coefficient of variation (% CV), and accuracy as percent deviation (% D), for Axygen 250 µL tips.

To test the ability of the tip to dispense accurately and precisely at two dispense volumes, 25 µL and 250 µL, a rack of 96 tips aspirated from an Axygen low profile reservoir (Corning Cat. No. RES-SW96-LP) and dispensed into a Corning 96-well, black, clear bottom microplate (Corning Cat. No. 3631).

For the 25 µL test volume, each tip aspirated 25 µL of Range B solution (Artel Cat. No. MVS-204) and dispensed 25 µL into

175 µL of diluent solution (Artel Cat. No. MVS-202) in each well. For the 250 µL test volume, each tip aspirated 250 µL of Range HV solution (Artel Cat. No. MVS-214) and dispensed 250 µL into 0 µL of diluent solution in each well. To determine the volume of liquid dispensed in each well, absorbance readings for the solutions (diluted Range B solution for 25 µL dispense and Range HV solution for 250 µL dispense) were measured using an Artel ELx800NB® plate reader (Artel Cat. No. 1311197). Each study was performed 3 independent times for a total of 288 tip dispenses. Evaluation criteria include % D from the set dispense volume and % CV of the measured dispense volume for the 288 tip dispenses.

### Results



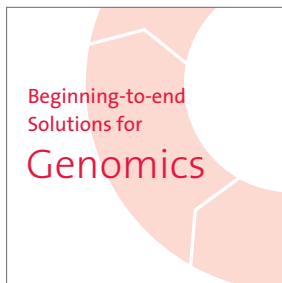
**Figure 1.** Analysis of VT-250-R with aqueous dispense. The precision (assessed by % CV) and accuracy (assessed by % D) of Axygen VT-250-R tips dispensing (A) 25 µL and (B) 250 µL volumes using the Agilent Bravo/Velocity11 liquid handling platform were determined using the Artel MVS® system. The % CV and % D were below 1% for both 25 µL and 250 µL dispenses, n = 288.

**Table 1.** Aqueous Dispense Results

Target Volume (µL)	25	250
n	288	288
% CV	0.81 ± 0.11	0.47 ± 0.03
% D	0.67 ± 0.09	0.14 ± 0.06
Outliers	0	0

### Conclusion

The % CV and % D for the Axygen automation VT-250-R dispensing 25 µL and 250 µL volumes were 5% or below. Therefore, Axygen automation VT-250-R tips can precisely and accurately dispense volumes as low as 25 µL and as high as 250 µL for aqueous solution using the Agilent Bravo/Velocity11 liquid handling platform.



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