

Performance Testing for Axygen® Automation Tip (VTF-384-15UL-R-S)

Application Note



A Corning Brand

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 15 µL tips.

To test the ability of the tip to dispense accurately and precisely at two dispense volumes, 1.5 µL and 15 µL, a rack of 384 tips aspirated from an Axygen low profile reservoir (Corning Cat. No. RES-SW96-LP) and dispensed into a Corning® 384-well, black, clear bottom microplate (Corning Cat. No. 3711).

For the 1.5 µL test volume, each tip aspirated 1.5 µL of Range C solution (Artel Cat. No. MVS-205) or DMSO Range C solution

(Artel Cat. No. MVS-217 solution) and dispensed 1.5 µL into 53.5 µL of diluent solution (Artel Cat. No. MVS-202) in each well. For the 15 µL test volume, each tip aspirated 15 µL of Range A solution (Artel Cat. No. MVS-203) and dispensed 15 µL into 40 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 1.5 µL dispense and Range A solution for 15 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 1,152 tip dispenses. Evaluation criteria include % D from the set dispense volume and % CV of the measured dispense volume for the 1,152 tip dispenses.

Results

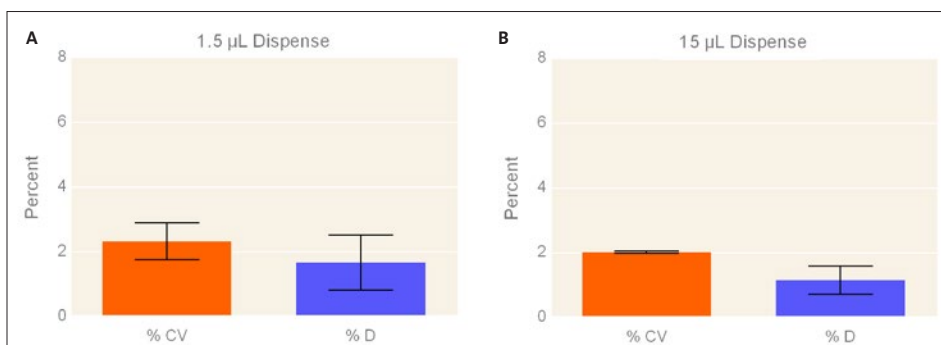


Figure 1. Analysis of VTF-384-15UL-R-S tip with aqueous dispense. The precision (assessed by % CV) and accuracy (assessed by % D) of Axygen VTF-384-15UL-R-S tips dispensing (A) 1.5 µL and (B) 15 µL volumes using the Agilent Bravo/Velocity11 liquid handling platform were determined using the Artel MVS® system. The % CV and % D were below 2.5% for both the 1.5 µL and 15 µL dispenses, n = 1,152.

Table 1. Aqueous Dispense Results

Target Volume (µL)	1.5	15
n	1,152	1,152
% CV	2.32 ± 0.57	2.00 ± 0.04
% D	1.68 ± 0.84	1.15 ± 0.48
Outliers	0	0

Conclusion

The % CV and % D for the Axygen automation VTF-384-15UL-R-S tips dispensing 1.5 µL and 15 µL volumes were 5% or below. Therefore, Axygen automation VTF-384-15UL-R-S tips can precisely and accurately dispense volumes as low as 1.5 µL and as high as 15 µL for aqueous and DMSO solutions using the Agilent Bravo/Velocity11 liquid handling platform.

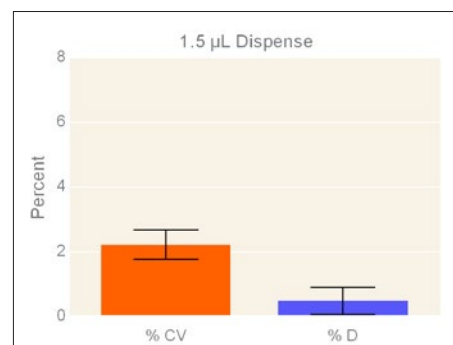
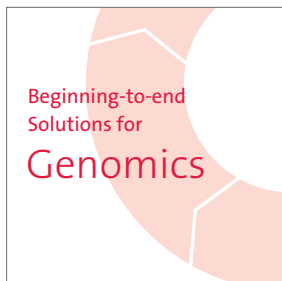


Figure 2. Analysis of VTF-384-15UL-R-S tip with DMSO dispense. The precision (assessed by % CV) and accuracy (assessed by % D) of Axygen VTF-384-15UL-R-S dispensing 1.5 µL volumes using the Agilent Bravo/Velocity11 liquid handling platform were determined using the Artel MVS system. The % CV and % D were below 1% for the 1.5 µL dispense, n = 1,152.

Table 2. DMSO Dispense Results

Target Volume (µL)	1.5
n	1,152
% CV	2.22 ± 0.45
% D	0.49 ± 0.42
Outliers	0



www.corning.com/lifesciences/solutions

In our continuous efforts to improve efficiencies and develop new tools and technologies for life science researchers, we have scientists working in Corning R&D labs doing what you do every day, across the globe. From collection to analysis, our technical experts understand your challenges and your need for simplified efficient, low- to high-throughput genomics processes.

A combination of global manufacturing expertise, extensive use of in-house automation, an unsurpassed commitment to product innovation and a thorough understanding of your processes enables Corning to offer a beginning-to-end portfolio of high-quality, reliable consumables and reagents for genomics applications.

For more specific information on claims, visit the Certificates page at www.corning.com/lifesciences.

Warranty/Disclaimer: Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures. Not for use in humans. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications.

Corning Incorporated
Life Sciences

836 North St.
Building 300, Suite 3401
Tewksbury, MA 01876
t 800.492.1110
t 978.442.2200
f 978.442.2476

www.corning.com/lifesciences

For additional product or technical information, visit www.corning.com/lifesciences or call 800.492.1110. Outside the United States, call +1.978.442.2200 or contact your local Corning sales office.

CORNING | **FALCON** **AXYGEN** **GOSSELIN** **PYREX**

For a listing of trademarks, visit www.corning.com/clstrademarks.
All other trademarks are the property of their respective owners.