



MVS[®]

Multichannel Verification System

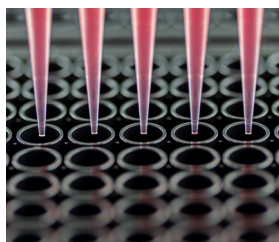
Increase liquid handling quality with easy and reliable performance verifications.

Streamline volume verifications with Artel MVS[®] and ArtelWare[®] Software

Without knowing the exact volume transferred at each step of an assay, the concentration of species in solution is unknown, potentially leading to unreliable results, delays, and cost overruns. Utilization of the Artel MVS for performance verification can prevent problems, bolster laboratory productivity, and provide confidence in the integrity of data.



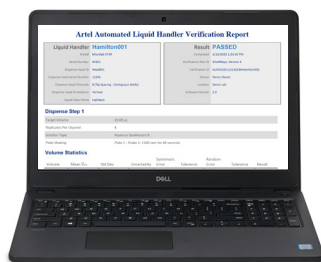
Three simple steps to volume verification with automatic reporting.



1. Dispense the QualAssure solution and Diluent into a Verification Plate and mix



2. Measure the absorbance values with the Plate Reader



3. Software displays results that indicate the performance of the liquid handler



Ideal for:

- Verifying the accuracy and precision of automated liquid handlers and multichannel pipettes
- Comparing instrument performance regardless of make, model or location
- Obtaining highly accurate results traceable to national and international standards
- Optimizing custom liquid classes on an automated liquid handler
- Uploading calibration certificates and repair documentation, as well as summary statistics for pipettes calibrated outside of ArtelWare

Verify volume transfer precision and accuracy and simplify regulatory compliance

System Capabilities:

- Measures performance over a wide volume range of 0.0001 to 350 μ L for Automated Liquid Handlers and Multichannel Pipettes
- Allows for aqueous and non-aqueous volume transfers with specialized solutions such as DMSO, PCRMix, SerumSub, PlasProxy and more
- Obtains volume statistics tip-by-tip and well-by-well
- Provides comprehensive reporting, including audit trail and printing of calibration labels
- Eliminates the need for rigorous environmental conditions
- Simplifies verification and calibration and is easy-to-use for technicians of any skill level
- Generates measurement results traceable to the International System of Units (SI) via standards maintained by NIST

Key Applications:

- Performance verification of automated liquid handlers and multichannel pipettes
- Optimizing liquid classes
- Facilitating of scale-up and method transfer
- Developing, troubleshooting, and validating assays, methods, and SOPs
- Ensuring reproducibility of assay results
- Site acceptance testing and establishing baseline performance of new equipment
- Verifying performance before and after maintenance
- Assessing performance of other essential liquid handling equipment such as plate shakers, plate washers, and bulk dispensers

Compliance:

The MVS conforms to the Dual-Dye Ratiometric Photometric Method described in ISO 23783-2:2022, and the Ratiometric Photometric Method described in ISO/IWA 15:2015 for automated liquid handling systems. It can be used to fulfill test and calibration requirements of handheld multichannel pipettes according to ISO 8655-7:2022. The MVS can be used to fulfill test and calibration requirements of handheld or automated liquid handling systems according to CLSI QMS23:2019, ISO 17025:2017, cGMP, and cGLP. ArtelWare and Data Manager Software can be used in laboratories compliant to 21 CFR Part 11.



"The MVS is easy to use, facilitating a frequent performance monitoring schedule. It has made a big difference in our laboratories, both from an efficiency point of view, as well as from a confidence standpoint."



Parts and Supplies

Artel 800TSNB Plate Reader

Size	(DxWxH): 41.9 x 38.1 x 17.8 cm
Weight	9.97 kg
Display	Touch screen
Light Source	Halogen bulb
Wavelength Selection	Metal oxide interference filters Center wavelengths: 520.2 nm (bandwidth at half-max = 6.2 nm) 730.5 nm (bandwidth at half-max = 10 nm)
Additional Filters	405 nm, 450 nm, 490 nm
COM port	USB
Electrical Power Requirements	Voltage 90 – 260 VAC
Frequency	50 – 60Hz
Current	2 A maximum
Warranty	1 year



Optimize your automation with QualAssure solutions that mimic your liquid types

- Saves development time
- Ensures correct volume delivery
- Decreases assay variability



Specifications

QualAssure Solutions*

96-well Verification Plate

384-well Verification Plate**

	Storage/Operational Temperature	Volume Range (µL)	(Uncertainty) Inaccuracy (%)***	(Imprecision) CV (%)***	Volume Range (µL)	(Uncertainty) Inaccuracy (%)***	(Imprecision) CV (%)***
Aqueous HV	15 – 30 °C	200.1 to 350.0	1.40 to 1.44	0.15 to 0.16	N/A	N/A	N/A
Aqueous A	15 – 30 °C	50.00 to 200.0	1.36 to 1.58	0.16 to 0.19	55.00 to 10.00	0.36 to 0.39	0.36 to 0.39
Aqueous B	15 – 30 °C	10.00 to 49.99	1.54 to 1.90	0.15 to 0.20	9.999 to 2.500	0.36 to 0.40	0.36 to 0.40
Aqueous C	2 – 8 °C	2.000 to 9.999	1.46 to 1.63	0.15 to 0.20	2.499 to 0.500	0.36 to 0.40	0.36 to 0.40
Aqueous D	15 – 30 °C	1.000 to 1.999	1.38 to 1.61	0.16 to 0.19	0.4999 to 0.3000	0.36 to 0.38	0.36 to 0.38
Aqueous E	15 – 30 °C	0.1000 to 0.9999 0.0001 to 0.0999 (non-traceable range)	1.39 to 2.87	0.16 to 0.22	0.1000 to 0.2999 0.0001 to 0.0099 (non-traceable range)	0.36 to 0.44	0.36 to 0.44
DMSO C	19 – 30 °C	2.000 to 9.999	N/A	N/A	N/A	N/A	N/A
DMSO D	19 – 30 °C	1.000 to 1.999	N/A	N/A	N/A	N/A	N/A
DMSO E	19 – 30 °C	0.1000 to 0.9999 0.0001 to 0.0999 (non-traceable range)	N/A	N/A	0.1000 to 0.2999 0.0001 to 0.0099 (non-traceable range)	N/A	N/A
PCRMix B	2 – 25 °C	2.000 to 49.99					
PCRMix C	2 – 25 °C	2.000 to 49.99	N/A	N/A	N/A	N/A	N/A
SerumSub A	2 – 8 °C	10.00 to 200.0					
SerumSub B	2 – 8 °C	10.00 to 200.0	N/A	N/A	N/A	N/A	N/A
PlasProxy A	2 – 8 °C	10.00 to 200.0					
PlasProxy B	2 – 8 °C	10.00 to 200.0	N/A	N/A	N/A	N/A	N/A
Stock Solution 1	15 – 30 °C	0.4 to 9.9	N/A	N/A	0.1 to 2.49	N/A	N/A
Stock Solution 2	15 – 30 °C	10 to 49.9	N/A	N/A	2.5 to 9.9	N/A	N/A

* All QualAssure Solutions expire 24 months after the date of manufacture

** Requires 384-well plate support and activation code

*** Stated specifications apply when Artel MVS Plate Readers (ELx800 and 800TSNB) and MVS Verification Plates are used with Aqueous QualAssure and DMSO QualAssure.



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