



OsmoTECH® HT

Automation-friendly plate-based
micro-osmometer

Optimize your high-throughput
osmolality testing workflows

Maximize productivity and drive osmolality testing efficiency with advanced sample automation.

High-throughput bioprocess development involves many complex workflows. Between the need to perform osmolality testing on large numbers of samples and monitor multiple additional parameters, optimizing your lab's workflows is critical.

The OsmoTECH HT is built for your early process development and drug formulation needs. Automation-friendly features support your high-throughput environment, streamlining efficiency and reducing hands-on operator time:

- The SBS-compliant 96-well plates can be integrated seamlessly with your high volume workflow and/or liquid handling automation workflow, significantly reducing hands-on time and the potential for human error.
- Instrument pipettes required volume for measurement and cleans the probe for a walk-away experience
- Customize and store templates on the device or simply import from network or USB to reduce testing set up time.
- Load up to two plates onto the device for 192 tests and perform up to 1,000 tests before a consumables change is required.



Unparalleled accuracy and precision

The OsmoTECH HT delivers the accuracy, precision, and compliance to pharmacopeia guidelines you've come to expect from Advanced Instruments. It uses freezing point depression—the gold standard method of testing osmolality. For confidence that you're developing a quality therapeutic, the OsmoTECH HT offers:

- Easily customize plate testing formats to suit your testing protocols.
- Custom plate cover seals plate to minimize evaporation of samples for repeatable and reliable results.
- The ability to manage consumables and inventory with assurance tags and receive alerts when consumables are low.
- Automated self-cleaning with the closed-loop fluid management system cleans after each sample to eliminate sample carryover and cross-contamination.

Trusted performance with minimal sample volume

With just 40 μ L osmolality testing is possible even from low volume culture systems.

OsmoTECH HT

Built for high-throughput automated workflows

Minimize consumables replacement

Load 1,000 consumables into the hopper for increased efficiency and decreased hands-on time.

User-friendly interface

A menu-driven operating system and touchscreen graphical user interface provide a step-by-step guide to allow users to easily program setup, tests and maintenance.

Run multiple samples effortlessly

Batch loading allows samples in a 96-well plate format with no maintenance and cleaning needed between tests for a walk-away testing experience.



Manage data and maintain traceability

Easily import sample identification information to the device via Open Protocol Communication (OPC-UA), USB download (3 ports), network share, LIMS or use an optional printer. Maintain traceability and reduce transcription errors by importing directly from another source file.

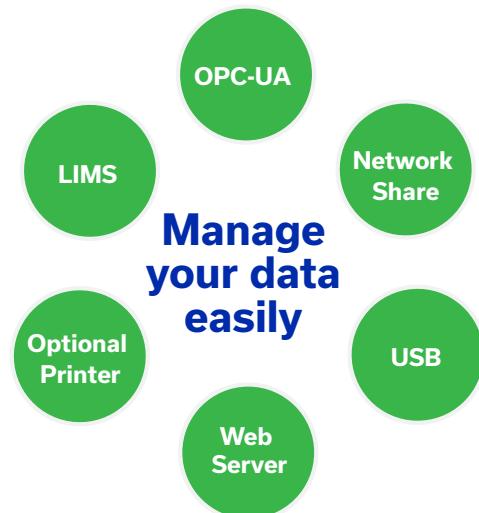
Effortless and secure data management

OsmoTECH HT's flexible data management features let you customize testing and data reporting to best fit your workflow and existing structure.

OsmoTECH HT has been designed to easily integrate your results and events into a data management system including a laboratory information management systems (LIMS), electronic lab notebooks (ELN), and middleware with OPC-UA bi-directional communication.

OsmoTECH HT connectivity features:

- Automated bi-directional data and control commands
- Automatic and secure data archiving
- Quickly save data to a network folder or USB in .pdf and .csv formats
- Increase efficiency with remote setup of customized plate map and quick test time



OsmoTECH HT supports 21 CFR part 11 and EU Annex 11 compliance:

- **Three levels of user access:** Set up to reflect the hierarchy of your team
- **Active directory/LDAP:** Harmonize with network credentials for easy login and user management
- **Electronic record retention and retrieval:** data is securely retained through password access control in both human-readable and electronic forms. Additionally, records are readily retrievable at any time

Advanced services

You can benefit from a range of services to help your instrument operate at optimum efficiency now—and in the future.

Our certified service engineers follow strict standard procedures, use only genuine parts, and provide a formal service report in-line with quality assurance guidelines.

Our full Qualification Program is designed to support laboratory validation procedures. We help bring your instrument online more quickly. Our expert qualification services ensure fast and reliable commissioning of your instrument. The program includes qualification workbooks with Installation Qualification (IQ) and Operational Qualification (OQ) services.

Keep your Instrument in optimal performance

Get total peace of mind with an Advanced Pharma Care service agreement. It includes qualification and annual preventive maintenance that keeps your instrument running in top condition and also ensures protection in case of instrument down time



Advanced Sample and Data Automation For High-Volume Testing Needs

With increasing timeline pressures to get biopharmaceutical candidates into therapeutic use, busy laboratories rely on osmolality testing for process optimization and quality control.

Optimizing osmolality testing to reduce hands-on time is critical in a high-throughput environment. Equally important is the ability to test low sample volumes in different formulations to conserve precious resources.

Increase your workflow efficiency with OsmoTECH HT

The OsmoTECH HT osmometer is built to speed scale-up in your upstream ecosystem. The automation-friendly multi-sample instrument is specifically designed to meet the high-throughput needs of cell line development, clone screening and early process development.

With a 96-well plate-based format with minimal maintenance and cleaning required between tests, the OsmoTECH HT delivers an unparalleled walk-away testing experience. Advanced data management features further enhance efficiency and integrate seamlessly into your workflow.

The instrument incorporates freezing point depression technology to test osmolality and offers the accuracy, precision and ease of use you've come to expect from the Advanced Instruments portfolio of osmometers.



Speeding scale-up for your upstream ecosystem



Clone screening

Speed to market, boost cell longevity, & increase yield—Know more about your clones sooner and select the best clones earlier in the process.



Cell line development

Boost cell longevity and maximize cell productivity—Optimize osmolality when developing new feeds and additives in cell culture to increase cell longevity.



Formulation development

Accelerate formulation development and stability testing—Integrate into automated workflows providing excipient concentrations and confirm the soluble content of formulations.

Parts and supplies

| Part number | Product description |
|--|---|
| Instrument | |
| OsmoTECH HT | Plate Based Micro-Osmometer |
| Calibration standards, reference solutions and testing supplies | |
| SK-TECHHT | <p>Convenience Kit includes:</p> <ul style="list-style-type: none"> OsmoTECH HT Calibration and Verification Standard Set (3MA635) OsmoTECH HT Cleaning Reel (635910) OsmoTECH HT System Fluid (635934) Clinitrol™ 290 (3MA029) OsmoTECH HT 96-well plate Kit (635920) Osmolality Linearity Set, 5-Level (3LA028) Swab Cleaner Kit, Pkg 50 (202850) OsmoTECH HT Micro-Sample Tubes, Pkg 1000 (HT1000) |
| Accessories | <ul style="list-style-type: none"> Compatible dot matrix printer and cable (135022) Printer paper (AN2TP5) Barcode scanner (700056) |

1. Subject to change
2. Advanced Instruments completes testing from 0 mOsm/kg sample to 2000 mOsm/kg sample during in-house linearity testing.
3. Performance at reference conditions: 20°C to 25°C (68°F to 77°F); 30 to 60% relative humidity.

Specifications¹

| | |
|--|---|
| Sample type | Aqueous-based solution |
| Sample volume | Minimum per well: 40 µl Maximum per well: 180 µl |
| Test time | 60 mins for 25 samples 3 hr 40 mins for 96-well plate |
| Sample format | 96-well plate |
| Resolution | 1 mOsm/kg H ₂ O |
| Range² | 0-2000 mOsm/kg H ₂ O |
| Accuracy³ (AI standards and reference solutions) | Mean value ± 3 mOsm/kg H ₂ O from nominal value between 0 and 400 mOsm/kg H ₂ O (1 SD) Mean value ± 1% from nominal value greater than 400 to 2000 mOsm/kg H ₂ O (1 SD) |
| Within-Run Repeatability³ (AI standards and reference solutions) | Standard deviation ≤ 3 mOsm/kg H ₂ O between 0 and 400 mOsm/kg H ₂ O Coefficient of variation ≤ 1% greater than 400 to 2000 mOsm/kg H ₂ O |
| Operating conditions | Temperature: 18°C to 35°C (64°F to 95°F) Humidity: 5 to 80% relative humidity (non-condensing) |
| Supported languages | Simple Chinese, English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Turkish |
| Storage temperature | -20°C to +45°C (-4°F to +113°F) |
| Electrical voltage | 100 to 240 VAC (50/60 Hz) |
| Power consumption | 60 Watts |
| Dimensions (D x W x H) | 48.9 cm D x 62.87 cm W x 68.58 cm H (19.25" D x 24.75" W x 27 H") |
| Net weight | 59.7 Kg (131.6 lbs) |
| Shipping weight | 111.9 Kg (246.6 lbs) |
| Warranty | One-year limited warranty on workmanship and parts |



Optimal performance requires quality test supplies.

Advanced Instruments provides a full line of calibration standards and consumables. These supplies ensure optimal system performance and accurate test results.

Not for patient diagnostic use



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Advanced Instruments certifies that the technical features needed for 21 CFR Part 11 and EU Annex 11 compliance are built into OsmoTECH HT. It is your responsibility to implement the necessary controls in your laboratory to comply with 21 CFR Part 11 and EU Annex 11 requirements

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MP00119 Rev.4

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