

Explore the future of osmometry.



The OsmoPRO[®] advantage.

There is a lot to get excited about with the OsmoPRO Multi-Sample Micro-Osmometer from Advanced Instruments.

OsmoPRO is ideally suited for mid- to high-volume laboratories who need to free up resources for other testing needs. It has the built-in flexibility, automation, and ease-of-use that allows users to simply load samples and walk away while the testing is completed.



Easy to use With total touchscreen operation and an intuitive user interface, OsmoPRO provides world-class performance in a user-friendly package.

Fast, accurate results With a 2 minute test time and a small 20 μ L sample volume, OsmoPRO provides rapid and precise test results using the industry-preferred freezing point depression method.

Improve efficiency and productivity Compared to single sample instruments, OsmoPRO allows the user to load multiple samples or controls, start the testing, and walk away. This translates to labor savings by allowing users more time for other laboratory tasks.

Versatile sample processing OsmoPRO is ideally suited to analyze complex aqueous mixtures including blood, serum, plasma, urine, culture media, drug formulations, and many other sample types.

Proven reliability OsmoPRO incorporates more than 60 years of applied technology and expertise in the field of freezing point osmometry.



On-board printer

For easy printout and archiving of test results

Touchscreen user interface

With a menu-driven operating system, intuitive software control, and multi-language capability, OsmoPRO is a snap to operate

20-Position turntable

Makes sample loading easy, and provides the ability to process multiple batch samples unattended

Precision sample cups

Requires only a small 20 μ L sample volume for sample-limited applications

Integrated 2-D barcode scanner

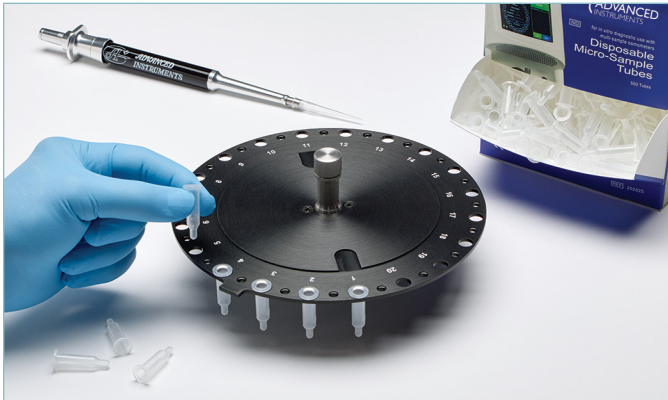
With proximity sensor, aids with positive sample identification and reduces transcription errors

Ethernet and multiple USB ports

For enhanced data management, connectivity, and easy export of data

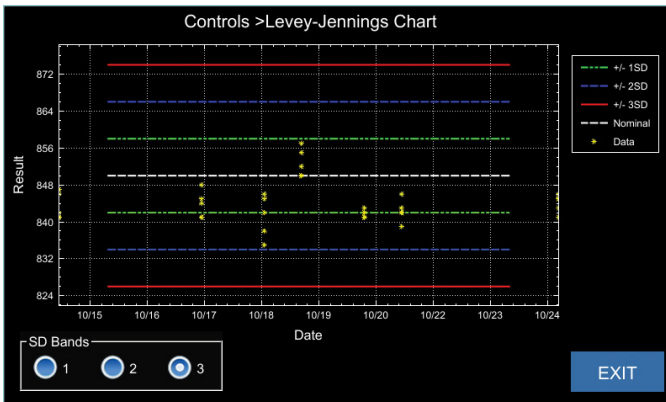
Simple. Intuitive. Efficient.

Precision. Reliability. Performance.



Flexibility in workflow.

- Sample carousel can be removed to load your samples offline, or samples can be loaded directly onto the carousel mounted to the system
- Load More feature allows the user to add samples after testing has started
- Intuitive software control features adapt to the test workflow that best suits your laboratory



Built-in quality control.

- Onboard Levey-Jennings control charts for statistical monitoring of daily QC
- Ability to set custom range limits for QC samples
- System allows users to determine system action limits for out of range QC results

Sample ID	mOsm	Date/Time	Position	Operator ID	Description	
36	3MA029	290	26 Feb 2016 9:31:15	4	John.A	Enclosure Temp: 25.C, Humid:15%
37	3MA029	290	26 Feb 2016 9:32:11	5	John.A	Enclosure Temp: 25.C, Humid:15%
38	3MA085	850	26 Feb 2016 9:33:09	6	John.A	Enclosure Temp: 25.C, Humid:15%
39	3MA085	850	26 Feb 2016 9:34:45	7	John.A	Enclosure Temp: 25.C, Humid:15%
40	3MA085	850	26 Feb 2016 9:35:23	8	John.A	Enclosure Temp: 25.C, Humid:15%
41	3MA085	850	26 Feb 2016 9:37:10	9	John.A	Enclosure Temp: 25.C, Humid:15%
42	3MA085	850	26 Feb 2016 9:39:21	10	John.A	Enclosure Temp: 25.C, Humid:15%
43	3MA005	50	26 Feb 2016 9:41:15	11	John.A	Enclosure Temp: 25.C, Humid:15%
44	3MA005	50	26 Feb 2016 9:42:36	12	John.A	Enclosure Temp: 25.C, Humid:15%
45	3MA005	50	26 Feb 2016 9:44:25	13	John.A	Enclosure Temp: 25.C, Humid:15%
46	3MA005	50	26 Feb 2016 9:46:18	14	John.A	Enclosure Temp: 25.C, Humid:15%

Enhanced data management capabilities.

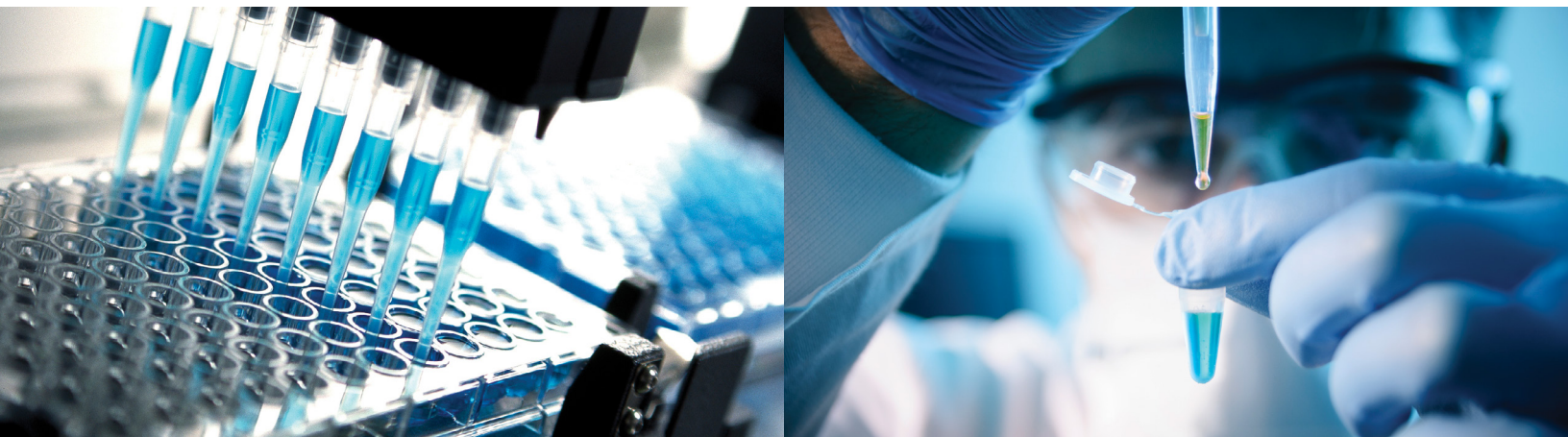
- 21 CFR Part 11 compliant features
- Ability to link sample ID and operator with test results for traceability
- Supervisor mode with password protection and system lockout features
- Last 1,000 test records stored
- Easy export of data to USB device or Laboratory Information System (LIS)
- Ability to reprint or export selected test results in memory
- Onboard statistics (Mean, SD, CV) for selected test results
- Integrated search functionality provides easy retrieval of test results

Why osmolality determination matters.

Osmolality is a fundamental measurement of the total solute concentration of a liquid solution, and it is directly related to osmotic pressure. Osmotic pressure is of vital importance in biology as it relates to fluid balance, nutrient transfer, and waste removal processes in all cellular organisms. Because of this, there are limitless applications and uses for measuring concentration of liquid solutions.

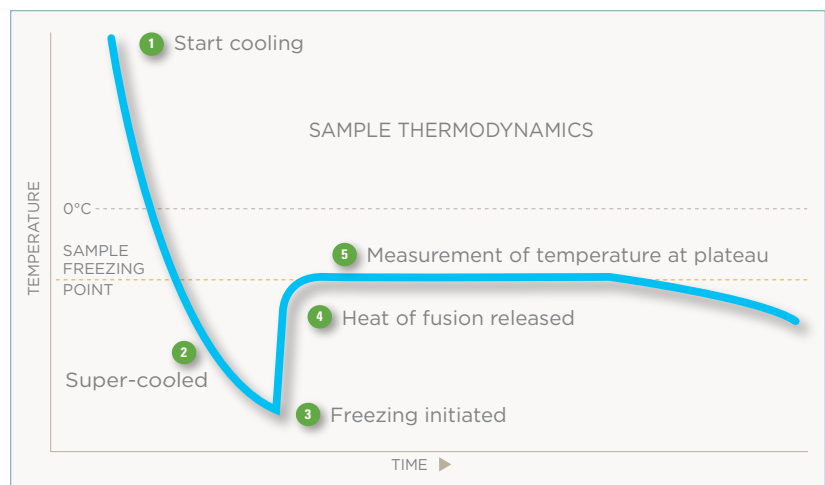
Why freezing point depression is the preferred method.

There are many methods for measuring concentration of solutions including specific gravity, refractive index, and conductivity. Freezing point osmolality, however, is the only method which is truly independent from the size, shape, and other physical characteristics of the liquid solution. This is why freezing point depression is the industry-preferred solution and the gold standard in clinical chemistry labs, pharmaceutical research, and quality control labs around the world.



Theory of freezing point depression for osmolality determination.

Advanced Instruments' osmometers utilize the freezing point depression method to determine the osmolality of aqueous solutions. When solutes (particles) are dissolved in a solvent (water), the freezing point of that solution is lowered compared to the solvent alone. As more solutes are added, the freezing point decreases further. Therefore, by precisely measuring the freezing point of the solution, the osmolality (i.e., concentration) can be determined.



The industry standard for osmometers. Worldwide.

Parts and supplies

Part number **Description**

Osmometer calibration standards and reference solutions

3MA005	50 mOsm calibration standard, 10x2 mL
3MA085	850 mOsm calibration standard, 10x2 mL
3MA200	2000 mOsm calibration standard, 10x2 mL
3LA028	Osmolality linearity set, 5x2x5 mL
3MA029	Clinitrol™ 290 reference solution, 10x2 mL

Osmometer control solutions

3MA028	Protinol™ protein-based serum control (3-Level, 3 mL vials)
3LA085	Renol™ urine osmolality control (2-Level, 3 mL vials)

Osmometer supplies and accessories

202825	Disposable sample tubes, box 500
202840	Probe wiper disks, box 50
240820	20 µL fixed volume pipette
800097	Pipette tips (960 pieces)
FLA835	Thermal printer paper, 5/pkg

OsmoPRO Multi-Sample Micro-Osmometer specifications¹

Sample volume 20 µL

Test time 2 minutes

Sample capacity Up to 20 samples

Units mOsm/kg H₂O

Resolution 1 mOsm/kg H₂O

Range 0 to 2000 mOsm/kg H₂O

Accuracy²

0-400 mOsm: mean value ±3 mOsm/kg H₂O from nominal value
400-2000 mOsm: mean value ±0.75% from nominal value

Precision²

(within run) 0-400 mOsm: standard deviation ≤ 3 mOsm/kg H₂O
400-2000 mOsm: CV ≤ 0.75%

Temperature effects³ Less than 1 mOsm/kg H₂O per 5°C (9°F) ambient temperature change

Communications On-board printer, integrated 2D-barcode scanner, USB 2.0 Type A (3), USB 2.0 Type B (1), Ethernet Port (1)

Supported languages Simple Chinese, Czech, Danish, English, French, German, Greek, Italian, Japanese, Korean, Portuguese, Russian, Slovak, Spanish, Swedish, Turkish

Storage temperature -40°C to +45°C (-40°F to +113°F)

Electrical voltage 100 to 240 VAC (50/60 Hz)

Power consumption 60 Watts

Dimensions (D x W x H) (37 cm x 25 cm x 44 cm) (14" x 10" x 17.5")

Net weight 13.2 kg (29 lbs.)

Shipping weight 19.1 kg (42 lbs.)

Warranty One-year limited warranty on workmanship and parts



The quality management system governing the manufacturing of this product is ISO 13485 registered.

¹Subject to change

²Performance at Reference Conditions: 20°C to 25°C (68°F to 77°F); 40 to 60% relative humidity

³Operating Conditions: Temperature 18°C to 35°C (64°F to 95°F); 30 to 80% relative humidity (non-condensing)



Optimal performance requires quality test supplies.

Advanced Instruments supplies a full line of calibration standards, ControLine™ products and supplies to ensure optimal system performance and accurate test results.



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Hot-Line™ Technical Service Advanced Instruments provides 24/7 comprehensive customer service and technical support.