Advanced
3320 Micro-Osmometer

The premier single-sample freezing point osmometer designed for fast, accurate results and simple operation

www.aicompanies.com

The Advanced® Model 3320 Micro-Osmometer is a single-sample osmometer designed to provide fast, accurate test results using a 20 µL sample. It combines proven freezing point technology with an elegant design that is both simple to operate and easy to maintain. It is ideally suited for routine osmolality testing in clinical diagnostic, pharmaceutical, and industrial laboratory settings.

Sampler tips and chamber cleaners are easily accessible and ensure fast, convenient test results

Cooling chamber and measurement control components are protected yet easy to access

Bar code scanner (optional) provides positive sample identification and minimizes transcription errors

Ergonomic design with built-in accessory compartment and small footprint maximizes available bench space

Operating cradle sliding mechanism guides the sampler into the freezing chamber

Ease-Eject® sampler collects and precisely positions the 20 µL sample for each test

Instrument display provides multi-language operation, test results, user prompts, error messages, self-diagnostics, and the ability to analyze and collect data for reporting

Thermal printer (optional) allows for easy printout and archiving of test results, maintenance history, and calibration records

Osmolality Testing Made Simple

Achieving results with the Model 3320 is fast and easy. Simply scan the bar code of the sample (optional), aspirate the sample into the sampler tip, place the sampler into the instrument's cradle, and insert into the system. Testing begins automatically and results are displayed in 60 seconds.

Providing Industry-Leading Capabilities for Osmolality Testing

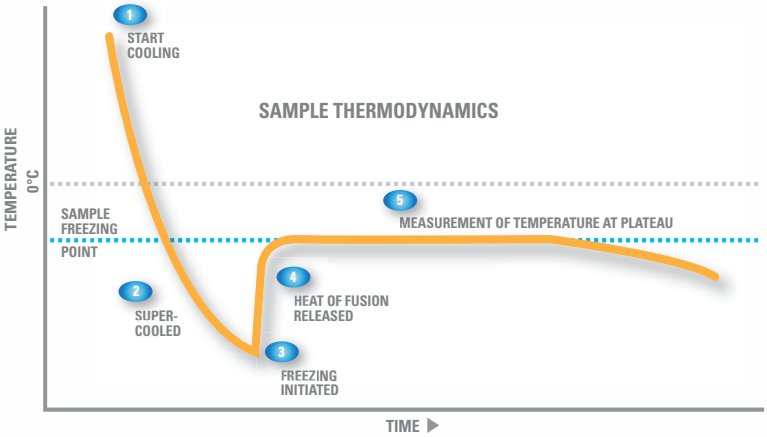
ADVANCED 3320 OSMOMETER FEATURES AND BENEFITS

- **Freezing point technology** – The industry-preferred method for determining sample concentration because it accounts for ALL solutes in solution
- **Small sample size** – Requires only a 20 µL sample and is perfectly suited for sample-limited applications
- **Fast and reliable test results** – With a 60-second test time, the 3320 can quickly process samples and improve laboratory productivity with industry-leading accuracy and precision
- **Easy to use** – With features including one-step sampling, a menu-driven interface, automatic calibration, and onboard statistical analysis, the 3320 combines world-class performance with a user-friendly package
- **Proven reliability** – The 3320 system incorporates over 50 years of applied technology and expertise in the field of osmometry and is ideal for laboratories seeking greater control, minimal downtime, and higher productivity
- **Versatile sample processing** – The 3320 is ideally suited for analyzing complex aqueous mixtures including blood, serum, plasma, urine, cell cultures, drug formulations, and many other nonbiological sample types

APPLICATIONS

- Clinical diagnostics, emergency and sports medicine
- Pharmaceutical research and development
- Biopharmaceutical monitoring and process control
- Academic and medical research
- Industrial monitoring and quality control
- Environmental research and monitoring

Theory of Freezing Point Depression for Osmolality Determination



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

Advanced 3320 Micro-Osmometer

ABOUT ADVANCED INSTRUMENTS

Advanced Instruments, Inc. is a leading supplier of instrumentation for clinical, pharmaceutical, biotechnology, microbiology and food laboratories around the world. Quality, reliability, service and support have been the company's guiding principles since our founding in 1955. Our innovative application of technology helps healthcare organizations improve the quality of care and industrial companies enhance quality and productivity.

Advanced 3320 Micro-Osmometer Specifications*

Sample volume	20 µL
Test time	60 seconds
Sample capacity	Single sample
Units	mOsm/kg H_2O
Resolution	1 mOsm/kg H_2O
Range	0 to 2000 mOsm/kg H_2O
Linearity[1]	Less than ±1% from a straight line over calibrated range
Repeatability[1]	Std. deviation ≤2 mOsm/kg H_2O between 0 and 400 mOsm/kg H_2O; Std. deviation ≤0.5% of value between 400 and 2,000 mOsm/kg H_2O
Temperature effects[2]	Less than 1 mOsm/kg H_2O per 5°C (9°F) ambient temperature change
Communications	DTE EIA-232/V.24 (RS-232) serial port, parallel printer port, and optional bar code scanner
Supported languages	English, French, German, Spanish, Italian, Portuguese, Swedish, Danish, Czech, Slovak
Storage temperature	-40°C to +45°C (-40°F to +113°F)
Electrical voltage	100 to 240 VAC (50 to 60 Hz)
Power consumption	60 W
Dimensions	14" H x 14" W x 15" D (35.5 cm x 35.5 cm x 38.1 cm)
Net weight	13.4 lb (6.1 kg)
Shipping weight	25 lb (11.4 kg)
Warranty	One-year limited warranty on workmanship and all parts except glass, plastic, and parts warranted by their makers

[1] **Performance at Reference Conditions** — 20°C to 25°C (68°F to 77°F); 40% to 60% relative humidity; tolerances of reference or calibration solutions excluded

[2] **Operating Conditions** — 18°C to 35°C (64°F to 95°F); 5% to 80% relative humidity (noncondensing)

* Specifications subject to change

Advanced 3320 Micro-Osmometer Parts and Supplies

Part #	Description
	Osmometer Calibration Standards and Reference Solutions
3MA005	50 mOsm Calibration Standard, 10x2 mL
3MA085	850 mOsm Calibration Standard, 10x2 mL
3LA201	2000 mOsm Calibration Standard, 10x5 mL
3LA028	Osmolality Linearity Set 100-2,000 mOsm 5x2x5 mL
3MA029	Clinitrol 290 Reference Solution, 10x2 mL
	Osmometer Control Solutions
200213	Protinol 3-Level Serum Control, 4x3x2 mL
200214	Protinol 240 mOsm Serum Control, 8x2 mL
200215	Protinol 280 mOsm Serum Control, 8x2 mL
200216	Protinol 320 mOsm Serum Control. 8x2mL
3MA028	Protinol 3-Level Osmometer Control, 3x3x3mL
200217	Renol 2-Level Urine Control, 4x2x2 mL
200218	Renol 300 mOsm Urine Control, 8x2 mL
200219	Renol 800 mOsm Urine Control, 8x2 mL
3LA085	Renol 2-Level Osmometer Control, 2x4x3 mL
	Osmometer Supplies and Accessories
3MA800	Sample Tips and Chamber Cleaners, 500/box
3M0825	Ease-*Eject* 20-Microliter Sampler
3M0828	Sampler Plunger Wire, 2/pkg
3M0827	Sampler Calibration Key
330016	Bar Code Scanner
210555_NA	Thermal Printer (100-120 VAC power supply)
210555_EU	Thermal Printer (230 VAC power supply)
3D3835	Thermal Printer Paper, 5/pkg
3325	User's Guide
3325SM	Service Manual

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

CE IVD Intertek

The management system governing the manufacturing of this product is ISO 9001 and ISO 13485 registered.

Advanced Instruments products are available from a worldwide distributor network. For more information on our products and services or to find your nearest distributor, visit us at www.aicompanies.com or e-mail us at info@aicompanies.com.

Hot-Line® Technical Service

Advanced Instruments Hot-Line Service and worldwide distributor network provide comprehensive customer service and technical support.

ADVANCED INSTRUMENTS, INC.
Two Technology Way / 781-320-9000
Norwood, Massachusetts 02062, USA
800-225-4034 Fax: 781-320-8181
www.aicompanies.com
info@aicompanies.com