



Automatic Freezing Point Osmometer

The Osmo810 is an upgraded freezing point osmometer based on the Osmo210, representing the latest fully automatic micro-sample freezing point osmometer. It features software functions compliant with 21CFR Part 11. With a sample volume of 30-50 μ l, Osmo 810 can be widely used in various fields such as pharmaceuticals, research, and beverages.

Hardware Features

Freezing technology

- Advanced low-pressure freezing technology in conjunction with vibration principles to rapidly and accurately test samples.

Operation panel

- 7-inch high-resolution LCD touchscreen, which provides clear digital and textual displays of measurement outcomes, device status, and process guidance information.
- User-friendly user interface. Minimal training is required to become proficient in operating it. There is no need for complex cleaning or maintenance, resulting in reduced manpower and maintenance costs.

Measurement probe

- The probe is made of stainless steel, which is very durable and less likely to break, thereby reducing operating costs.
- The high-precision sample probe accurately controls the ultracold temperature and freezing process, enabling precise sample measurements and yielding reliable measurement results.
- The probe is designed for easy cleaning, thereby significantly reducing the risk of cross-contamination from sample residues and enhancing repeatability.

Semiconductor cooling technology

- The utilization of semiconductor refrigeration eliminates the need for thermocouples, cooling liquid, and minimizing daily maintenance.

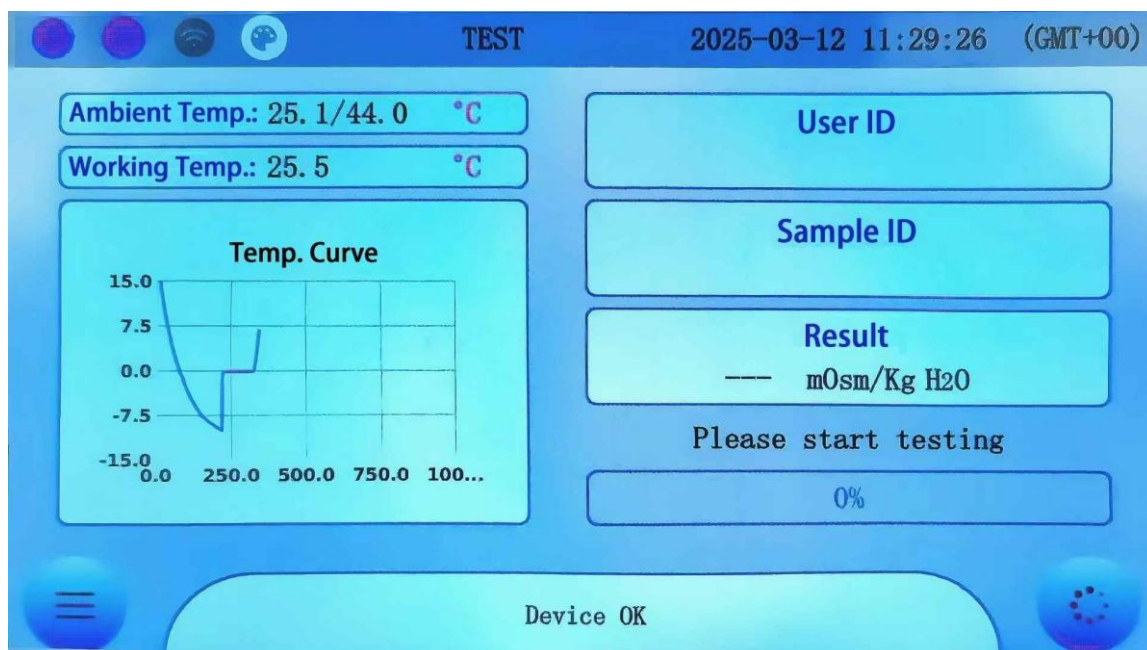
Storage capacity

- Large memory, unlimited data storage.

Multiple user Interface

can easily connect the osmometer to barcode scanner, printer, USB flash drive, PC and local area network.

- 1 RS 232 port,
- 2 USB ports,
- 1 LAN port



Software Feature

21 CFR part 11 / EU Annex 11

- o e-Signature
- o Five level user access
- o Password protection
- GMP environment
- Pharmacopeia osmolality testing guidelines

Audit Trail

- Osmo 810 can connect barcode scanner for sample identification and reduced transcription errors
- Manual back up. Automatic and synchronous back up will be available before the end of 2025.
- Complete time-stamped record of usage, role, and actions requiring reason for settings changes
- Ability to annotate test results via the handy comments field

Data Management

- Open communication protocol (OPC-UA, available in 2026),
- USB data download,
- Network sharing,
- TCP/IP communication, LIS (available in 2026)
- Optional printer.
- Data filter & statistics: data filter and statistical function is capable of calculating the linearity, standard deviation, average value and other statistical results.
- Data Analysis

The measurement data report is categorized into three formats: data tables, statistics, and data charts. Users have the flexibility to select the appropriate report format based on their workflow and architecture. Regardless of the chosen format, it will facilitate users in gaining a more intuitive understanding of the data and enable them to provide enhanced services.

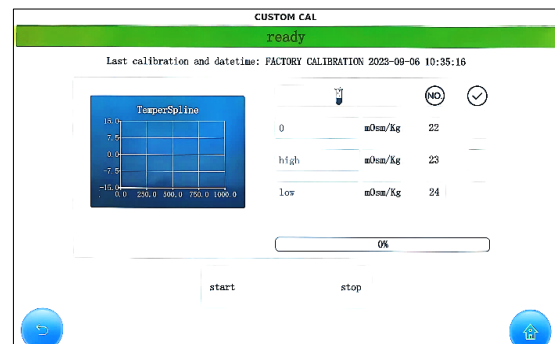
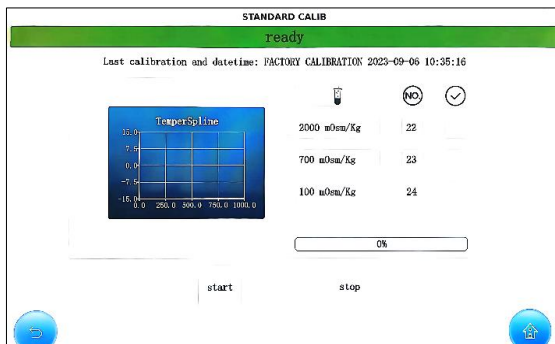
Time	Action	User	Date/Time	Details
1298	WARNING	Testing	2019-09-20 10:02:09	Test tube14 empty
1299	WARNING	Testing	2019-09-20 10:02:09	Test tube15 empty
1300	WARNING	Testing	2019-09-20 10:02:10	Test tube16 empty
1301	WARNING	Testing	2019-09-20 10:02:10	Test tube17 empty
1302	WARNING	Testing	2019-09-20 10:02:11	Test tube18 empty
1303	WARNING	Testing	2019-09-20 10:02:11	Test tube19 empty
1304	WARNING	Testing	2019-09-20 10:02:11	Test tube20 empty
1305	WARNING	Testing	2019-09-20 10:02:12	Test tube21 empty
1306	WARNING	Testing	2019-09-20 10:02:12	Test tube22 empty
1307	WARNING	Testing	2019-09-20 10:02:13	Test tube23 empty
1308	ERROR	Testing	2019-09-20 10:02:31	Power up level
1309	ERROR	Testing	2019-09-20 10:02:31	Test tube24 error: E0000:EXP_LOAD_P000
1310	INFO	Power Up	2019-09-20 10:09:21	set start statistics
1311	INFO	Power Up	2019-09-20 10:09:21	software version: 0.0.3.4, firmware version: 3.0.8.1
1312	CRITICAL	System error	2019-09-20 10:00:23	Abnormal top cover.
1313	CRITICAL	System error	2019-09-20 10:00:23	Abnormal front cover.
1314	INFO	Power Up	2019-09-20 10:01:37	Preheat error.
1315	WARNING	Testing	2019-09-20 10:01:37	Test tube1 empty

Order	Serial ID	Result	Test ID	Part ID
3209	KX0102	0	rept1	2
3210	KX0104	0	rept1	3
3211	KX0105	0	rept1	4
3212	KX0106	0	rept1	5
3213	KX0109	0	rept1	1
3214	KX0109	0	rept1	2
3215	KX0111	0	rept1	3
3216	KX0112	0	rept1	4
3217	KX0113	0	rept1	5
3218	KX0115	0	rept1	1
3219	KX0116	0	rept1	2
3220	KX0117	0	rept1	3
3221	KX0118	0	rept1	4
3222	KX0119	0	rept1	5
3223	KX0121	0	rept1	1
3224	KX0122	0	rept1	2
3225	KX0123	0	rept1	3
3226	KX0124	0	rept1	4
3227	KX0125	0	rept1	5
3228	KX0128	0	rept1	1

Calibration

Free calibration (essential for pharmaceutical companies):

- Unknown samples (Standard Cal): 3-points calibration (100 mosm/700 mosm/2000 mosm);
- Known samples (Custom Cal): User definable 2-points calibration: Use 2 calibration solutions of known concentration (low/high value). The smaller the range, the more accurate the measurement.



Technical Specification

General Specification

Basic Performance

Sample Volume:	30-50 μ L
Test Time:	about 90 Sec.
Sample Capacity:	Single sample
Unit :	mOsm/kg H ₂ O
Resolution:	1 mOsm/kg H ₂ O
Measuring Range:	0 - 3000 mOsm/kg H ₂ O
Repeatability:	RSD 1
Accuracy:	$\leq \pm 3\%$ mOsmol/kg, [0-400 mOsmol/kg] $\leq \pm 1.0\%$, [400-1500 mOsmol/kg] $\leq \pm 1.5\%$, [1500-3000 mOsmol/kg]
Linearity:	<1%
Communication:	Serial RS-232 and USB
Language:	English

Working Conditions

Temp. Range:	+5 ~ +38 $^{\circ}$ C
Environment Humidity:	5- 80% RH (no condense)
Storage Temperature :	-40 to + 45 deg Celsius
Power Requirements:	115V/230V/180V, 50/60 Hz
Dimension:	45x45x35 cm
Net Weight:	5.5 kg
Shipping Weight:	10.5 kg

Standard Configuration

1x	Osmo 810 freezing point osmometer
1x	Calibration solution: 100 mosm 10 \times 2ml
1x	Calibration solution: 700 mosm 10 \times 2ml
1x	Calibration solution: 2000 mosm 10 \times 2ml
1x	Reference solution: 290 mosm 10 \times 2ml
1x	Disposable sample tubes, 200 pcs.
1x	English operation manual
1x	Power cable

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Manufacturer: Yasn Limited

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