Freezing Point Osmometer



Introduction:

The BK-FPO-V2 Freezing Point Osmometer is independently developed and manufactured in-house. Based on Raoult's law of freezing point depression, the osmolality of a solution is proportional to its molal concentration. Fitted with high-sensitivity temperature sensors, the instrument determines the freezing point of a sample to calculate osmolality. This principle is widely applied to osmolality testing and research in the pharmaceutical, biological and food industries.

Feature:

* Supports electronic signature and hierarchical user management, compliant with 21 CFR Part 11. Enables time-stamped data queries; up to 3 years of test data can be stored on board.
* Single-point or multi-point (up to 31 points) linear calibration ensures stable measurement accuracy across the full measurement range.
* Screw-driven linear guide motor design; the entire test workflow can be operated exclusively via touchscreen.
* Dual refrigeration system delivers a short pre-cooling time and fast measurement for continuous batch testing.
* Simultaneously displays osmolality, freezing point and molar concentration.
* Maintenance-free cooling system with no circulating heat-transfer fluid.
* Preloaded with hundreds of injectable drug entries from the Chinese Pharmacopoeia for fast sample information presetting.

Technical Parameters:

Model	BK-FPO-V2
Measurement Range	0~2000mOsmol/kg H_2O
Sample Volume	100μl
Testing Duration	≤3min
Pre-Cooling Time	≤3min
Measurement Error	≤1%
Repeatability	≤1%
Linearity	≤1%
Resolution	0.1mOsmol/kg H_2O
Print	Built-in printer
Audit Trail	Optional
Environment Temperature	0~30℃ Recommended for 15~25℃
Relative Humidity	≤60%
Power Supply	AC110/220V,50/60Hz
External Size(W*D*H)	225*275*345mm
Packed Size(W*D*H)	600*450*580mm
Net weight	15kg
Gross weight	27kg



Feature:

* Sleek design with a large touchscreen for intuitive, efficient operation.
* High measurement accuracy and outstanding repeatability, built on the principle of freezing point depression with a precision temperature sensor.
* Dual refrigeration system with short pre-cooling time supports rapid, continuous testing.
* Requires minimal sample volume to satisfy diverse application needs.
* Simultaneously displays osmolality, freezing point and molar concentration.
* Single-point or multi-point (up to 31 points) linear calibration for reliable results across the range.
* Maintenance-free cooling system with no circulating heat-transfer fluid.
* Preloaded with hundreds of injectable drug entries from the Chinese Pharmacopoeia for easy test configuration.
* Customizable acceptance criteria for automatic sample quality assessment.
* Microprocessor-controlled, featuring automatic data processing, data storage and multiple print formats.
* Permission management safeguards data security. The RS-232 interface supports connection to PCs and laboratory information systems for data sharing.

Technical Parameters:

Model	BK-FPO-30D
Measurement Range	0~4000mOsmol/kg H_2O
Sample Volume	50~100μl
Testing Duration	≤1min30s
Pre-Cooling Time	≤3min
Measurement Error	±2 mOsmol /kg (≤ 400 mOsmol/kg), ±1.0% (> 400 mOsmol/kg)
Repeatability	≤1% (300 mOsmol/kg)
Linearity	≤1%
Resolution	1mOsmol/kg H_2O
Print	Built-in printer
Audit Trail	Optional
Environment Temperature	10~35℃
Relative Humidity	≤5~80%
Power Supply	AC110/220V,50/60Hz
External Size(W*D*H)	250*250*370mm
Packed Size(W*D*H)	480*340*400mm
Net weight	10kg
Gross weight	15kg

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