

**Conforms to ASTM D445, D2170, D6074; IP 71, 319; ISO 3104; DIN 51 550; FTM 791-305; NF T 60-100**



*A Multi-Channel System for the Determination Of Kinematic and Dynamic Viscosities*

- *Save Time*
- *Increase Accuracy*
- *Up to 12 Positions*
- *0.3 – 100,000 mm<sup>2</sup>/sec*
- *-20 to 150°C ± 0.01°C*

The UIC Model 929 Semi-Automatic Viscosity System can determine the viscosities of up to 12 samples simultaneously and independently.

A modular system, the Model 929 can be configured for your specific needs. Whether you want to upgrade your manual viscosity determinations, compliment your fully automated system, or cost-effectively increase your productivity and accuracy, the Model 929 is the right instrument for you.

A standard system consists of a 12-position controller with an LCD screen and compact keyboard, a lighted, 7-position constant temperature bath, and 6 viscometer tubes with proprietary, removable electro-optical sensor assemblies attached.

This system can be used to determine the kinematic and dynamic viscosity of any transparent or opaque Newtonian fluid in the range of 0.3 to 100,000 centistokes.

Viscosity timing and calculations are automatically determined and reported in any user-selectable units. The calibration factor of each viscometer can be individually determined and stored and will remain unchanged as long as the position of the optical assembly is not moved and the glassware is clean.

The operator has complete freedom to control each viscometer independently and can utilize one or more in any sequence desired.

- *Base Oils*
- *Formulated Oils*
- *Petroleum Wax*
- *Residual Fuel Oils*
- *Bitumens*
- *Asphalt Cements*

The Model 929 Controller and electro-optical viscometer assemblies operate in concert to accurately measure the elapsed time required for the meniscus of a Newtonian fluid to pass between two timing points at an equilibrated temperature. For a given set of equipment, the elapsed time is proportional to viscosity at a constant temperature.

Up to twelve such viscometers can be installed, each calibrated to read the chosen viscosity units as well as elapsed time for each analysis. The results are reported on the controller monitor and can be printed on an optional printer.

The Model 929 Kinematic Viscosity Bath provides the precise, reliable temperature control required by ASTM specifications. Simple push-button controls and dual digital displays permit easy setting and monitoring of bath temperature. Viewing the viscometers is made easy by glare-free fluorescent illumination inside the bath and a baffle that provides a background for easy viewing. Temperature control uniformity is assured by means of a motorized stirrer which provides complete circulation without turbulence.

Safety features include integrated, redundant overtemperature protection and low-liquid level power cut off which protect the operator, the equipment and the integrity of the viscometer assemblies.

### - Ordering Information -

**JI929-115** – Model 929-06 Six position system. Includes controller, bath, six viscometer assemblies, and related cables, power cords and operation manuals.

**JI929-116** – Model 929-12 Twelve position system. Includes controller, two baths, twelve viscometer assemblies, and related cables, power cords and operation manuals.

**JI929-117** – Model 929-C Upgrade system. Includes a controller, six viscometer assemblies, and related cables, power cords and operation manuals

**Options** – Optional equipment includes printers, chillers, high-temperature viscometer assemblies, and additional baths.

### Available Viscometer Assemblies

- Cannon-Ubbelohde Semi-Micro
- Cannon-Ubbelohde Dilution
- Ubbelohde
- Cannon-Fenske Routine
- Cannon-Fenske Opaque
- Zeitfuchs-Crossarm



### Specifications –

#### Controller –

Includes Model 929 Controller Module, LCD Display, Compact Keyboard and associated cables, power cords and manual.

Electrical Requirements – 115V, 50/60Hz, 2.0A

Viscometer Assembly Ports – 12

Timer Range – 0 – 99,999.99 sec

Timer Accuracy - within 0.1%

Dimension, l x w x h, in (cm) – 16x13x21 (41x33x53)

Net Weight – 20 lbs (9kg)

#### Bath –

Includes Lighted, 7-Position Bath, Circulating Heater, Motorized Stirrer, 7 Port Covers, Thermometer Holder and associated cables, power cord and manual.

Electrical Requirements – 115V, 50/60Hz, 12.7A

Temperature Control Range – Ambient to 150°C,

-20 – 150°C with an external chiller (not supplied)

Temperature Control Accuracy -  $\pm 0.01^\circ\text{C}$

Temperature Display – 0.1°C/0.1°F resolution, calibrate to 0.01°C/0.01°F

Viscometer Ports – Seven round 2" (51mm) ports

Bath Depth – 12"

Bath Capacity – 5.8 gal (22L)

Dimensions, l x w x h, in (cm) – 20.25x15.25x24.5 (51x39x62)

Net Weight – 83 lbs (38kg)

#### Viscometer Assemblies –

Include Glassware, two photodiode sensors, two lamps, support hardware, cable assembly and instructions.

Max Operating Temperature - 110°C (optional high-temperature assemblies available. Consult UIC for details)



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