

Kinematic Viscosity Bath & Software

www.koehlerinstrument.com



Time	Temperature	Viscosity
10.00	20.00	100.00
10.05	20.00	100.00
10.10	20.00	100.00
10.15	20.00	100.00
10.20	20.00	100.00
10.25	20.00	100.00
10.30	20.00	100.00
10.35	20.00	100.00
10.40	20.00	100.00
10.45	20.00	100.00
10.50	20.00	100.00
10.55	20.00	100.00
11.00	20.00	100.00
11.05	20.00	100.00
11.10	20.00	100.00
11.15	20.00	100.00
11.20	20.00	100.00
11.25	20.00	100.00
11.30	20.00	100.00
11.35	20.00	100.00
11.40	20.00	100.00
11.45	20.00	100.00
11.50	20.00	100.00
11.55	20.00	100.00
12.00	20.00	100.00





Features & Benefits

- Complete instrument and data acquisition system exclusively designed for conducting D445, D2170 and related test methods
- Powerful software system for PC platforms operating in Windows® 98 SE, 2000, NT, ME, and XP environments
- High accuracy temperature control with dual digital displays show setpoint and actual bath temperature
- Microprocessor temperature control between ambient and 150°C (302°F), and down to -20°C (-4°F) with an external chiller
- Software exports test data with graphs and test parameters directly to Microsoft® Excel or in ASCII file format for use with LIMS or any other spreadsheet program
- Zoom, pan, and trace feature allows for magnification of any plot area for a more detailed study
- Integrated digital timing for easy measurement of sample efflux times
- Selectable temperature scale - Fahrenheit or Celsius

Test Method

Kinematic viscosity is of primary importance in the design and selection of a wide range of petroleum products. Calibrated capillary viscometers are used to measure flow under gravity or vacuum at precisely controlled temperatures.

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Kinematic Viscosity Bath

Constant temperature bath series with advanced temperature control circuitry and integrated timing features for convenient, accurate glass capillary viscometry determinations. Microprocessor PID circuitry assures precise, reliable temperature control within ASTM specified tolerances throughout the operating range of the bath. Simple push-button controls and dual digital displays permit easy setting and monitoring of bath temperature. Two place calibration offset capability is provided. Baths accommodate seven glass capillary viscometers of various types. 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 motorized stirrer which provides complete circulation without turbulence. Connection of the built-in cooling coil to tap water or a recirculating water chiller facilitates temperature control at ambient or below ambient temperatures. KV3000 incorporates seven digital timers on the front control panel for convenient timing and monitoring of the efflux interval for each viscometer. On KV4000, the user can enter the viscosity constant for each viscometer on the front LCD control/display, and then get the test result in both efflux time and viscosity units automatically after stopping each timer. All timing functions are displayed in 0.01 or 0.1 second resolution and are accurate within 0.01%.

Viscosity Software

Software automatically calculates final test results from sample efflux times and includes a database for logging test data, determining test averages, standard deviations, and ASTM test repeatability as well as providing a method for tracking instrument and accessory calibrations. The sophisticated Windows®-based software package features an easy-to-navigate operation, a straightforward user interface, minimal draw on Windows® memory resources, and real-time data acquisition via RS232 connection. The final test results are exported with graphs and test analysis to Microsoft® Excel.

Specifications

Conforms to the specifications of:

ASTM D445, D2170, D6074, D6158; IP 71, 319; ISO 3104; DIN 51550; FTM 791-305; NF T 60-100

Temperature Control

Range: ambient to 150°C (302°F); -20°C to 150°C (-4°F to 302°F) with an external chiller. (Please contact Koehler for chiller options.)

Display: digital with 0.1°C/0.1°F resolution, calibrate to 0.01°C/0.01°F

Control accuracy and uniformity: Exceeds ASTM requirements throughout the operating range

Integrated timing

KV3000: Seven individual start/stop timers with displays to 0.01 seconds, accurate to within 0.01%

KV4000: Integrated LCD microcomputer with start/stop buttons and retention of viscometer tube constants, automatic calculation and display in viscosity units or seconds to 0.1s, within 0.01% accuracy.

Communication: RS232 port included with KV4000 (optional for KV3000)

Viscometer ports: Seven round 2" (51mm) ports

Bath Medium: Water or suitable heat transfer fluid

Ordering Information

Catalog No.	Model	Electrical Requirements	Bath Depth
K23700	KV3000	115V 50/60Hz, single phase 12.6A	12" (30.5 cm)
K23702	KV4000		
K23790	KV3000	220-240V 50/60Hz, single phase 7.2A	18" (46 cm)
K23792	KV4000		
K23706	KV3000	115V 50/60Hz, single phase 12.6A	18" (46 cm)
K23708	KV4000		
K23796	KV3000	220-240V 50/60Hz, single phase 7.2A	
K23798	KV4000		
K23700-SFW	Viscosity Software		

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