

CANNON® CAV-2200® DUAL BATH AUTOMATIC VISCOMETER

ASTM D 445/446
ISO 3104/3105
IP 71/1/97

CAV-2200 CANNON Automatic Viscometer

- ◆ Measures two samples at two different temperatures simultaneously
- ◆ Fully automated and unattended operation
- ◆ Now acetone-compatible!
- ◆ New low-volume (4 mL) testing option
- ◆ New tankless solvent dispensing system!

New!

The new CAV-2200 from CANNON Instrument Company builds on the strengths of the modular benchtop CAV-2000 to provide fully automatic testing for kinematic viscosity at two different temperatures simultaneously. Viscosity Index of the sample is automatically calculated.

Accuracy

Designed for unattended operation, the CAV-2200 provides fully automatic kinematic viscosity testing within parameters specified by ASTM D 445. The CAV-2200 measures flow rates within ± 0.001 second by electronically timing the liquid meniscus as it moves between thermistor sensors. Bath temperature is controlled to an accuracy better than $\pm 0.01^\circ\text{C}$ between 20° and 100° , as required by ASTM D 445/446. Dark or opaque liquids may be measured with the same precision as transparent fluids.

Features

The CAV-2200 bath unit housing is identical in size to the original CAV-2000, but the instrument incorporates twin baths, each with its own viscometer and sample-handling array. Like the CAV-2000, the CAV-2200 offers variable temperature selection between 20° and 100°C . The new instrument is ideal for smaller laboratories that must determine oil viscosities at 40° and 100°C without the high throughput required of larger facilities. Each CAV-2200 bath has a single viscometer tube with a 100-fold range (10-fold range for "fast-run" tubes). The CAV-2200 is compatible with a wide variety of samples and solvents, including acetone. This enhancement has further broadened the range of potential applications.

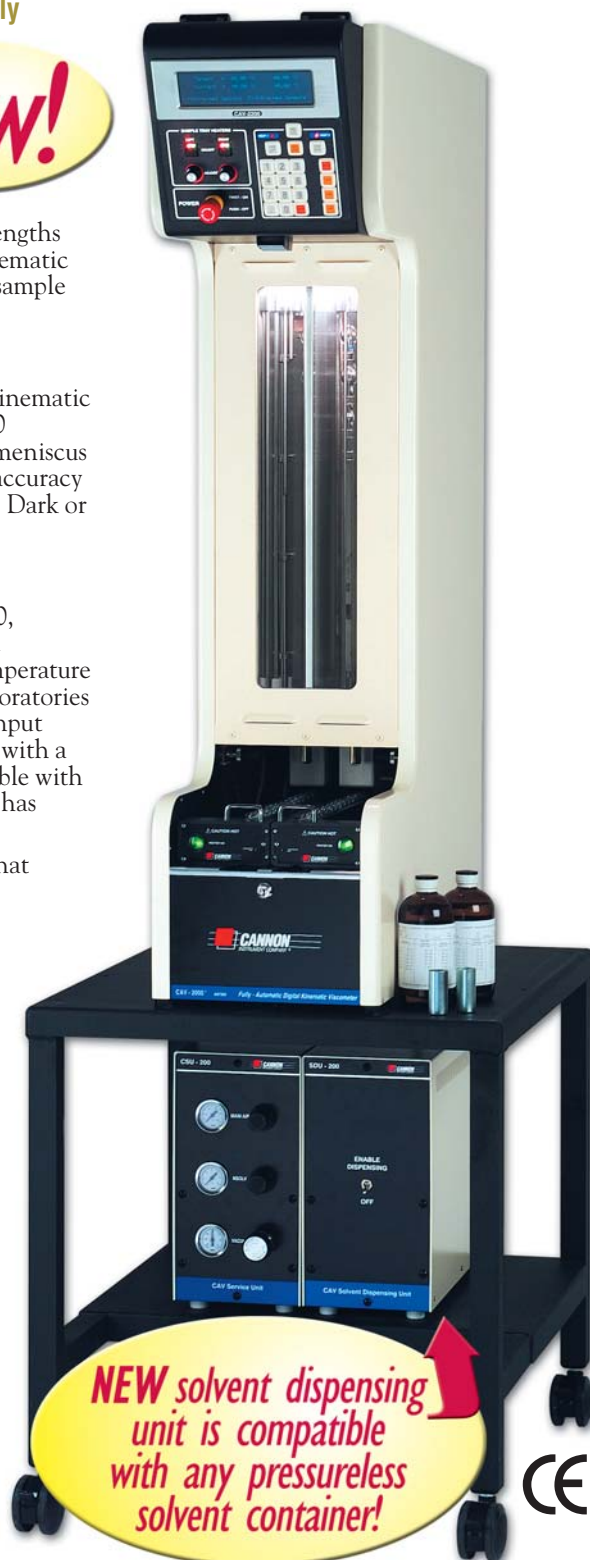
Options for the CAV-2200 instrument include a high-capacity sample track that accommodates 50 samples per tube (100 samples per instrument). A special low-volume tube and modified sample vials/holders provide a new

low-volume testing option (only 4 ml of sample required) over a 10-fold range. For additional Accessories/Options, consult the table on the following page. A new Solvent Dispensing Unit is designed to draw solvent from the customer's non-pressurized solvent container.

Tests are conducted in accordance with the precision specified by the ASTM D 445/446 method. Sample identification and data assimilation are accomplished by the VISCPRO® software for Windows® 98/NT®/XP®. VISCPRO also includes powerful reporting options, including realtime data transfer to the user's laboratory information management system (LIMS).



CAV-2200's Twin Bath and Optional Heated Sample Trays



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CAV sample vials/holders

CAV sample vials/holders

Designed for use with the CANNON Automatic Viscometers, CAV sample vials are available in glass and plastic. Cellulose Acetate Propionate vials are transparent. The Polypropylene vials are translucent.

Reusable metal vial adapters act as a sleeve to hold the vials in the CAV sample trays. Consult the tables below for order information and specifications. Free samples of all vials are available upon request. Contact CANNON for more information.

Multi-Unit Interface Kit

The CAV-2200 Series Multi-Unit Interface Kit enables a single PC to control up to four different CAV-2200 Series instruments. Please see Order Information, below.

CAV-2200® Specifications

Bath Unit Dimensions:	305 mm wide x 727 mm deep x 1245 mm high (12x35x49")
Service and Solvent Dispensing Units:	178 mm wide by 508 mm deep by 356 mm high (7x20x14") for each unit
Viscosity Range:	0.5 to 5000 cSt depending on viscometer tubes (custom configuration to 10,000 cSt possible. Contact CANNON for details)
Bath Temperature:	Variable from 20°C ¹ to 100°C with an accuracy better than ± 0.01°C
Drop Time Resolution:	0.01 seconds (timing accuracy to ±0.001 second)
Operating Conditions:	10%-90% RH non-condensing. Installation category II; Pollution degree 2
Compliance:	CE Mark: EMC directive (89/336/EEC); Low voltage directive (73/23/EEC); HI-POT (1900 VDC, 60 sec.)
Preferred Bench Height:	28 to 30 inches
Computer Requirements:	Computer not included. Please contact CANNON for specifications.

Available Options/Accessories

Pedestal Base	Heated Sample Drains
Fast-Run Tubes	Low-Volume Testing Option
Dual Solvent Option	Computer Stand
Heated Sample Tray Option	Thermometers for Heated Trays
High-Heat Sample Tray Option	High Capacity Sample Track

Contact CANNON for an installation guide detailing space, equipment, and utility requirements.

CAV-2200® Order Information

Catalog #	Item Description
9725-A07	CAV-2200, 115V 50/60Hz, 1725 watts
9725-A12	CAV-2200, 230V 50/60Hz, 1725 watts

Please specify exact voltage and frequency when ordering

CAV Standard Sample Vials/Adapter Order Information³

Catalog #	Item Description
P61.3661	Single-dipped CAV Sample Vial ² , 2.35 x 0.90 x 0.02", 60 x 23 x 0.50, Cellulose Acetate Propionate
P61.3662	Double-dipped CAV Sample Vial, 2.52 x 0.85 x 0.08", 64 x 22 x 2.0, Cellulose Acetate Propionate
P61.3663	Polypropylene vials, 2.43 x 0.94 x 0.047", 62 x 24 x 1.2, Polypropylene
9717-V01	Glass CAV Sample Vial, 2.42 x 0.94 x 0.057", 62 x 24 x 1.45, Glass
P62.1073B	Sample Vial Adapter, 2.25 x 1.0 x 0.025", 57 x 25 x 0.635, 316ss

CAV Low Volume Application Vial/Adapter Order Information

Catalog #	Item Description
P61.3660	Low-volume Sample Vial ³ , 2.35 x 0.64 x 0.03", 60 x 16 x 0.76, Polypropylene
P61.3658	Low-volume Sample Adapter Sleeve ³ , 2.38 x 1.0 x 0.17, 60 x 25 x 4.3, Aluminum

Multi-Unit Interface Kit Order Information

Catalog #	Item Description
P61.3527	Kit, Multi-Unit, 115V, for CAV-2200
P61.3528	Kit, Multi-Unit, 230V, for CAV-2200

¹ Testing near ambient requires optional chiller.

² Not recommended for applications above 80°C.

³ Low Volume Application Vial/Adapter requires low volume viscometer tubes in CAV bath.