

The CANNON® CAV® 4.2 is an automated, high throughput, dual-bath kinematic viscometer for ASTM D445. The CAV® 4.2 combines CANNON® quality and reliability with modern design and unique features to enhance lab productivity, reduce costs, and improve data quality.

Common Applications

- Formulated oil analysis
- Hydraulic oil analysis
- Additive analysis
- Marine fuel testing
- Base stock analysis
- Light and heavy fuel testing
- Waxes/paraffin
- Crude oil testing
- Glycols

CAV® 4.2

Dual-Bath Kinematic Viscometer

For Kinematic Viscosity of Transparent and Opaque Liquids
ASTM D445, ISO 3104, IP 71, ASTM D446, ISO 3105

Product Features & Benefits

D445 precision in a modern, dependable design

- Temperature range: 20 °C to 100 °C (15 °C to 150 °C with available options)
- Viscosity range: 0.5 mm²/s to 10,000 mm²/s in 100-fold increments
- Dual, independent modular baths provide easy maintenance access and simultaneous testing at two different temperatures
- Two independent, fully-accessible sample handlers ensure reliable, unattended processing of up to 24 tests per hour

Fully self-contained bench-top unit with flexible connectivity

- Simple, out-of-the-box installation. No external components required
- 35% smaller footprint conserves lab space
- A single unit can be run using the on-board computer, without need for an external PC, or a single PC can manage up to 4 units using VISCPRO® software

Reduced consumable costs

- Tube design reduces solvent usage and disposal costs by 50%
- Automated vial washing and drying reduces vial consumption and replaces manual washing

Easy change-out, versatile viscometer tubes

- Operators replace tubes in minutes, eliminating the need to schedule related service calls
- Single-point temperature calibration avoids tube recalibration costs and maximizes test flexibility

Status indicator bath lights

- Colored lights provide a simple remote indication of operational status

Flexible sample handling

- Multiple pre-defined/user-defined test methods can be run in the same sample tray
- High throughput selective zone heating preheats individual samples to any temperature from ambient to 100 °C



Professional installation, VISCPRO® data storage and management software, viscometer tubes, standards, and a high precision digital thermometer are included

CAV[®] 4.2 Dual-Bath Kinematic Viscometer

Ordering Information

CAV[®] 4.2 Dual-Bath Kinematic Viscometer: includes two viscometer tubes, one set of oil viscosity standards, one case of glass vials, high precision digital thermometer with probe, VISCPRO[®] data storage/management software and professional installation. Specify desired factory installed options and viscometer tubes when ordering. Computer not included.

Description	Part #
100 VAC, 50/60 Hz, 1200 watts	9725-B30
115 VAC, 50/60 Hz, 1200 watts	9725-B35
230 VAC, 50/60 Hz, 1200 watts	9725-B40

Options

NOTE: All options are available for factory installation on request at the time of order. Indicated part numbers correspond to field-installable options and are ordered separately. Options with part number designated as N/A are only available for factory installation.

Description	Part #
Sample pre-heat zone assembly (for glass vials)	68.0480
Sample pre-heat zone assembly (for use with metal sleeves)	68.0479
Sample carousel safety cover	68.0299
Third solvent input (both baths)	68.0478
Integrated thermoelectric bath cooling (per bath)	N/A
Integrated high temperature bath (left)	N/A
Integrated high temperature bath (right)	N/A
External heated waste drain lines	68.0454
Additional temperature calibration (each after first)	68.0481

Accessories & Consumables

Description	Part #
Viscosity reference standards	various
Replacement silicone bath fluid, 1 L	9726-L40
Vials (glass); case of 144	9717-V01
Vials (polypropylene); pack of 1,000	61.3663
Metal sleeves (for waxy samples); case of 14	68.0455
Pedestal base (fits up to two CAV 4.2 units)	68.0298
Extra sample tray (for glass vials)	68.0049
Extra sample tray (for metal sleeves)	68.0092

Product Specifications

Dimensions (W x D x H)	36 cm x 66 cm x 72 cm (14.25 in x 26 in x 28.5 in)
Weight	63 kg (140 lb)
Maximum throughput	24 tests per hour
Automated sample capacity	28 positions (2 x 14 positions)
Viscosity Range	0.5 mm ² /s to 10,000 mm ² /s in 100-fold increments (depending on viscometer tubes selected). Fast run tubes are also available.
Timing resolution	0.01 seconds (timing accuracy to ± 0.001 seconds)
Temperature Range & Accuracy	20 °C to 100 °C ± 0.01 °C; without a TE bath cooler, the minimum temperature is +5 °C above ambient temperature. Up to 150 °C, ± 0.03 °C with integrated high temperature bath option. Down to 15 °C, ± 0.03 °C with integrated TE bath cooling option.
Minimum Sample/Solvent Volume Required	8 mL sample/15 mL solvent per test
Operating Conditions	15 °C to 30 °C, 10% to 90% relative humidity (non-condensing), Installation Category II; Pollution Degree 2
Electrical Specifications	100 VAC, 50/60 Hz, 1200 watts; 115 VAC, 50/60 Hz, 1200 watts; 230 VAC, 50/60 Hz, 1200 watts
Compliance	CE Mark; EMC directive (2004/108/EC); Low voltage directive (2006/95/EC); HI-POT (1900 VDC, 60 sec.); ROHS
Additional standard features	Internal heated waste drain lines, dual solvent input

Viscometer Tubes

Standard Tubes	Fast Run Tubes	Standard Tubes	Fast Run Tubes
Kinematic Viscosity Range (mm ² /s or cSt)		Kinematic Viscosity Range (mm ² /s or cSt)	
0.5-50	0.5-5	10-1,000	10-100
1-100	1-10	15-1,500	15-150
2-200	2-20	20-2,000	20-200
3-300	3-30	30-3,000	30-300
4-400	4-40	40-4,000	40-400
5-500	5-50	50-5,000	50-500
6-600	6-60	60-60,00	60-600
7-700	-	-	80-800
8-800	8-80	100-10,000	100-1,000

CANNON Instrument Company[®] provides a variety of physical property testing equipment and consumables (vials, bath fluids, and reference materials) for your testing needs. To learn more, contact sales@cannoninstrument.com.



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