

miniAV[®]-X

Single-Bath Kinematic Viscometer

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

CANNON's miniAV[®]-X is a fully automated, single-bath, benchtop viscometer with a 10-position sample handler for unattended D445 processing. The Ubbelohde-style tube covers a 100-fold viscosity range at values between 0.5 mm²/s (cSt) and 6,000 mm²/s (cSt) from 15 °C to 100 °C (with available TE cooler).

Common Applications

- Formulated oil analysis
- Hydraulic oil analysis
- Additive analysis
- Marine fuel testing
- Base stock analysis
- Light fuel testing
- Crude oil testing
- Glycols

Product Features & Benefits

D445 precision in a compact, robust design

- Temperature range: ambient to 100 °C (15 °C to 100 °C with available TE cooler)
- Viscosity range: 0.5 mm²/s (cSt) to 6,000 mm²/s (cSt)* in 100-fold increments (easily covering the range of 5 separate manual glass viscometers)
- Fits in roughly the same benchtop area as an analytical balance
- Optional, environmentally friendly Peltier cooling requires no external refrigeration
- A well tested CANNON viscometer platform offers reliability and dependable support

Fully automated benchtop testing

- A fully accessible 10-position sample handler ensures reliable, unattended processing of up to 12 determinations per hour
- Automation provides an alternative to labor-intensive manual testing and reduces operator to operator variability
- VISCPRO[®] PC software enables one PC to manage and control up to four instruments
- User-configurable reports may be viewed, printed, saved and exported

Reduced consumable costs

- ASTM D446/ISO 3105 Ubbelohde-style tube reduces solvent usage and disposal costs by 50%
- Automated vial washing and drying enables reuse and reduces vial consumption

Simplified maintenance & test versatility

- Modular bath for easy maintenance access
- Operators physically replace tubes in minutes, eliminating the need for related service calls
- Single-point temperature calibration avoids tube recalibration costs and maximizes flexibility
- Instrument includes standard dual-solvent input

*Some upper viscosity measurements may be limited by test temperature and sample type. Fast run (10-fold range) tubes are also available.

†Installation outside the domestic U.S. may incur additional charges.



Includes professional installation[†], VISCPRO[®] data storage and management software, viscometer tube, standards, and a high precision digital thermometer

CANNON
INSTRUMENT COMPANY

2139 High Tech Road | State College | PA | 16803
800-676-6232 | 814-353-8000 | Fax 814-353-8007

sales@cannoninstrument.com | cannoninstrument.com

miniAV[®]-X Single-Bath Kinematic Viscometer

Ordering Information

The CANNON[®] miniAV[®]-X Single-Bath Kinematic Viscometer comes with a 10-position sample carousel, external power supply and waste receiver assembly. One viscometer tube, one set of oil viscosity standards, a case of glass vials, a high precision digital thermometer with probe, VISCPRO[®] data storage/management software, a one year warranty and professional installation/training (within the domestic U.S.) are also included. Specify desired factory installed options and viscometer tubes when ordering. Computer sold separately.

Description	Part #
100 VAC, 50/60 Hz	9725-A87
115 VAC, 50/60 Hz	9725-A85
230 VAC, 50/60 Hz	9725-A86

Options

Factory installed options (see NOTE) must be specified when ordering. Part numbers are listed below for field installable options.

Description	Part #
TE bath cooling (external)	81.2216
External heated waste drain line w/ external power supply	81.3115

Accessories & Consumables

Description	Part #
Viscosity reference standards	various
Replacement silicone bath fluid, 1 L	9726-L40
20 mL vials (glass); case of 40	81.3023
10 position sample carousel (replacement)	81.2326
15 position sample carousel (factory install only)	81.3153
Spare parts kit (1 year supply)	81.2900

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.

Product Specifications

Dimensions (W x D x H)	Unit: 25.4 cm x 43.7 cm x 52.6 cm (10.0 in x 17.2 in x 20.7 in) Power Supply: 33.0 cm x 39.6 cm x 17.2 cm (13.0 in x 15.6 in x 6.8 in) Waste Receiver: 33.0 cm x 39.6 cm x 17.2 cm (13.0 in x 15.6 in x 6.8 in)
Weight	Unit: 18.0 kg (40.0 lb) Power Supply: 11.0 kg (24.0 lb) Waste Receiver: 6.0 kg (13.0 lb)
Shipping dimensions (W x D x H)	73.7 cm x 63.5 cm x 94.0 cm (29.0 in x 25.0 in x 37.0 in)
Shipping weight (with all items)	63.5 kg (140.0 lb)
Max. throughput	12 tests per hour
Automated sample capacity	10
Viscosity range	0.5 mm ² /s (cSt) to 6,000 mm ² /s (cSt) in 100-fold increments (depending on viscometer tube selection). Fast run tubes are also available.
Timing resolution	0.01 s (timing accuracy to ± 0.001 s)
Temperature range & accuracy	15 °C to 100 °C ± 0.01 °C* *temperatures within 5 °C of ambient and below require bath cooling
Minimum sample/ solvent volume	5 mL sample*/15 mL solvent per test *as little as 3 mL with fast run tubes
Operating conditions	15 °C to 30 °C, 10% to 75% relative humidity (non-condensing), Installation Category II; Pollution Degree 2
Electrical specifications	100 VAC, 50/60 Hz; 115 VAC, 50/60 Hz; 230 VAC, 50/60 Hz; 1,000 watt power consumption
Compliance	CE Mark; EMC directive (2004/108/EC); Low voltage directive (2006/95/EC); HI-POT (1900 VDC, 60 sec.); ROHS
Data output	RS-232 and RS-485

Viscometer Tubes

Std Tubes	Part #	Fast Run Tubes	Part #	Std Tubes	Part #	Fast Run Tubes	Part #
KV Range in mm ² /s (cSt)				KV Range in mm ² /s (cSt)			
0.5-50	12.0581	0.5-5	12.0304	10-1,000	12.0294	10-100	12.0312
1-100	12.0287	1-10	12.0305	15-1,500	12.0302	15-150	12.0313
2-200	12.0288	2-20	12.0306	20-2,000	12.0295	20-200	12.0314
3-300	12.0289	3-30	12.0307	30-3,000	12.0296	30-300	12.0315
4-400	12.0290	4-40	12.0308	40-4,000	12.0297	40-400	12.0316
5-500	12.0291	5-50	12.0309	50-5,000	12.0298	50-500	12.0317
6-600	12.0292	6-60	12.0310	60-6,000	12.0303	60-600	12.0318
7-700	12.0578	-	-	-	-	80-800	12.0319
8-800	12.0293	8-80	12.0311				



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