

miniPV[®] is a fully-automated, single sample, benchtop viscometer for testing dilute solution viscosity of polymers in organic solvents and aqueous solutions. The Ubbelohde-style tube covers a dilute solution polymer viscosity range between 0.02 mm²/s (cSt) and 700 mm²/s (cSt) from 15 °C to 100 °C. Available tubes cover a kinematic viscosity range of 0.3 mm²/s (cSt) to 1,200 mm²/s (cSt) with extended KV range tubes available on request.

Common Applications

- Elastomers
- Plastics
- Thermoplastic elastomers
- Copolymers
- Biopolymers
- Polymer blends
- Oligomers
- Pre-polymers
- Resins
- Viscosity modifiers

miniPV[®]

Dilute Solution Polymer Viscometer

For Dilute Solution Viscosity of Polymers in Organic Solvents and Aqueous Solutions
ASTM D1243, ASTM D1795, ASTM D2857, ASTM D3591, ASTM D4243, ISO 1628-1, ISO 5351

Product Features & Benefits

Designed to meet specific polymer industry needs

- Compatible with organic solvents and aqueous solutions
- On-board software with specialized polymer calculations determines relative, inherent, reduced, specific and intrinsic viscosity as well as molecular weight
- Integrated TE cooling provides superb temperature control from 15 °C to 100 °C
- Dilute solution polymer viscosity range: 0.02 mm²/s (cSt) to 700 mm²/s (cSt). Both single range and special dual range viscometer tubes are available
- Available kinematic viscosity tubes cover a range of 0.3 mm²/s (cSt) to 1,200 mm²/s (cSt) with extended range tubes available on request*

Compact, robust design

- Fits in roughly the same bench-top area as an analytical balance to conserve valuable lab space
- Proven CANNON[®] viscometer platform offers reliability and outstanding support
- Peltier cooling is environmentally friendly and requires no external refrigeration

Fully automated bench-top testing

- Software controls the instrument and facilitates tasks such as calibration, data entry, method specification, calculation selection, report formatting, and data exporting
- Single PC manages up to 4 instruments using VISCPRO[®] software
- Reduces operator to operator variability
- Automated vial washing & drying reduces vial consumption and replaces manual washing

Simplified maintenance & test versatility

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

*Upper viscosity measurements may be limited by test temperature and sample type.



Professional installation, software, a viscometer tube, standards and a high precision digital thermometer are included.

miniPV[®] Dilute Solution Polymer Viscometer

Ordering Information

miniPV[®] Dilute Solution Polymer Viscometer consists of the viscometer unit, external power supply and waste receiver assembly. One viscometer tube, one set of viscosity standards, a case of glass vials, a high precision digital thermometer with probe, VISCPRO[®] data storage/management software and professional installation are also included. Specify desired factory installed options and viscometer tubes when ordering. Computer sold separately.

Description	Part #
100 VAC, 50/60 Hz	9725-A92
115 VAC, 50/60 Hz	9725-A91
230 VAC, 50/60 Hz	9725-A93

Options

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

Description	Part #
External heated waste drain line w/ external power supply	81.3115

NOTE: Additional temperature calibration (for each temperature beyond the first) is also available for an added charge at the time of ordering.

Accessories & Consumables

Description	Part #
Viscosity reference standards	various
Replacement silicone bath fluid, 1 L	9726-L40
Vials [20 mL clear glass]; case of 40	81.3023
Vials [20 mL clear glass]; case of 144	65.0025
Vials [20 mL amber glass]; case of 144	81.2816
Screw cap lids [24 mm opening]; case of 144	65.0026
Viton sample cap liner with slits, 1 each	65.3888
Spare parts kit [1 year supply]	81.3030
CANNON [®] Solution Preparation System [SPS]	
	115 - 240V 9724-Z61

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 39.6 cm x 61.9 cm (10.0 in x 15.6 in x 24.375 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: 24 kg (53 lb) Power Supply: 11 kg (24 lb) Waste Receiver: 6 kg (13 lb)
Shipping dimensions (W x D x H)	73.7 cm x 63.5 cm x 94.0 cm (29 in x 25 in x 37 in)
Shipping weight (with all items)	72 kg (159 lb)
Max. throughput	12 tests per hour
Automated sample capacity	1
Viscosity range	Dilute Solution: 0.02 mm ² /s (cSt) to 700 mm ² /s (cSt) Kinematic: 0.3 mm ² /s (cSt) to 1,200 mm ² /s (cSt)* <small>*Range depends on viscometer tube selection. Extended range tubes are available for some applications.</small>
Timing resolution	0.01 s (timing accuracy to ± 0.001 s)
Temperature range & accuracy	20 °C to 100 °C ± 0.01 °C Down to 15 °C, ± 0.03 °C
Minimum sample/solvent volume	8 mL sample*/15 mL solvent per test <small>*as little as 3 mL with fast run tubes</small>
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

Size	Single Range Tubes	Part #	Dual Range Tubes	Part #
Dilute Solution Polymer Viscosity Range in mm ² /s (cSt)				
0	0.02 – 0.43	12.0566	–	–
0A	0.3 – 3	12.0549	0.3 – 3/ 0.5 – 5	12.0594
0B	0.15 – 2	12.0548	–	–
0C	0.2 – 1	12.0567	–	–
1	0.4 – 4	12.0550'	0.4 – 4/ 0.7 – 7	12.0602
1B	2 – 20	12.0551	2 – 20/ 3.5 – 35	12.0591
1C	1.3 – 13	12.0552	–	–
1D	0.8 – 8	12.0582	–	–
1E	0.5 – 5	12.0583	–	–
2	4 – 40	12.0553	4 – 40/ 7 – 70	12.0610'
2B	20 – 200	12.0554	–	–
2C	10 – 100	12.0565	–	–
3	40 – 400	12.0555	40 – 400/ 70 – 700	12.0592



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