

miniPV<sup>®</sup>-HX is a fully automated, single-bath, benchtop viscometer with a 10 position sample handler for unattended processing and testing of dilute solution viscosity of polymers in aggressive solvents and corrosive acids. The Ubbelohde-style tube covers a dilute solution polymer viscosity range between 0.02 mm<sup>2</sup>/s [cSt] and 700 mm<sup>2</sup>/s [cSt] from 15 °C to 100 °C. Available tubes cover a kinematic viscosity range of 0.3 mm<sup>2</sup>/s [cSt] to 1,200 mm<sup>2</sup>/s [cSt] with extended KV range tubes available on request.

#### Common Applications

- Thermoplastics
- Polyamides
- Biopolymers

# miniPV<sup>®</sup>-HX

## Dilute Solution Polymer Viscometer

For Dilute Solution Viscosity of Polymers in Aggressive/Corrosive Solvents  
ASTM D789, ASTM D1243, ASTM D1795, ASTM D2857, ASTM D3591, ASTM D4243, ASTM D4603  
ASTM D5336, ISO 307, ISO 1628-1, ISO 1628-5, ISO 5351

### Product Features & Benefits

#### Designed to meet specific polymer industry needs

- Resistant to corrosive solvents and acids
- 10 position sample handler minimizes operator exposure to hazardous chemicals
- 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 mm<sup>2</sup>/s [cSt] to 700 mm<sup>2</sup>/s [cSt]. Both single range and special dual range viscometer tubes are available
- Available kinematic viscosity tubes cover a range of 0.3 mm<sup>2</sup>/s [cSt] to 1,200 mm<sup>2</sup>/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<sup>®</sup> viscometer platform offers reliability and outstanding support
- Optional 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<sup>®</sup> 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.



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## Ordering Information

miniPV<sup>®</sup>-HX Dilute Solution Polymer Viscometer consists of the viscometer unit, 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<sup>®</sup> 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-C16
115 VAC, 50/60 Hz	9725-C17
230 VAC, 50/60 Hz	9725-C18

## Options

Additional temperature calibration (for each temperature beyond the first) is 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 144	65.0025
Vials (20 mL clear glass); case of 40	81.3023
Vials (40 mL clear glass); case of 144	81.2838
Vials (20 mL amber glass); case of 144	81.2816
Screwcap lids (24 mm opening); case of 144	65.0026
Viton septum cap liner with slits, 1 each	65.3889
PTFE lined bottle cap, 1 each	03.5132
PolyVISC Solution Preparation System (SPS)	
	115 VAC 9724-Z61
	230 VAC 9724-Z62
Extra sample carousel	81.2778
Spare parts kit (1 year supply)	81.2918

CANNON Instrument Company<sup>®</sup> 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](mailto:sales@cannoninstrument.com).

## Product Specifications

Dimensions (W x D x H)	<b>Unit:</b> 25.4 cm x 39.6 cm x 78.7 cm [10.0 in x 15.6 in x 30.5 in] <b>Power Supply:</b> 33.0 cm x 39.6 cm x 17.2 cm [13.0 in x 15.6 in x 6.8 in] <b>Waste Receiver:</b> 33.0 cm x 39.6 cm x 17.2 cm [13.0 in x 15.6 in x 6.8 in]
Weight	<b>Unit:</b> 24 kg [53 lb] <b>Power Supply:</b> 11 kg [24 lb] <b>Waste Receiver:</b> 6 kg [13 lb]
Shipping dimensions (W x D x H)	73.7 cm x 63.5 cm x 94 cm [29 in x 25 in x 37 in]
Shipping weight (with all items)	63.5 kg [140 lb]
Max. throughput	12 tests per hour
Automated sample capacity	10
Viscosity range*	<b>Dilute Solution:</b> 0.02 mm <sup>2</sup> /s [cSt] to 700 mm <sup>2</sup> /s [cSt] <b>Kinematic:</b> 0.3 mm <sup>2</sup> /s [cSt] to 1,200 mm <sup>2</sup> /s [cSt] *Range depends on viscometer tube selection. Extended range tubes are available for some applications
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 *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

Size	Single Range Tubes	Part #	Dual Range Tubes	Part #
Dilute Solution Polymer Viscosity Range in mm <sup>2</sup> /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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