The semi-automated CANNON® SPS Solution Preparation System uses gravimetric (weight-to-weight) rather than volumetric methodology to prepare highly accurate (± 0.02% of target) polymer solutions for relative viscosity measurement on CANNON automated polymer viscometers. Gravimetric preparation eliminates errors associated with variation in solvent density as well as manual weight/volume measurements.

Common Applications

- Dilute solution viscosity of ethylene polymers
- Intrinsic viscosity of cellulose
- Inherent viscosity of PET
- Solution viscosities of polyamide

SPS
Solution Preparation System

For Gravimetric Preparation of Polymer Solutions Prior to Relative Viscosity Measurement
ASTM D789, ASTM D1243, ASTM D1601, ASTM D1795, ASTM D2857, ASTM D3591, ASTM D4020, ASTM D4243, ASTM D4603, ASTM D5226, ASTM D5336, ISO 307, ISO 1628-1, ISO 1628-3, ISO 1628-5, ISO 5351, TAPPI T 230

All-in-one, automated system

- Solution preparation system includes a titrator for dispensing solvent, a balance, and proprietary software for facilitating and managing solution preparation
- When coupled with an automated viscometer (such as miniPV®-HX, miniPV®-X, or PolyVISC®), SPS provides a complete polymer analysis system

Reduced variability

- Accurate results independent of temperature fluctuations
- Concentration accuracy: ±0.02% for most samples over 100 mL
- Gravimetric or weight-based sample preparation eliminates errors associated with volumetric methods resulting from:
  - Changes in solvent density due to temperature fluctuation
  - Laborious manual weight and volume measurements

Simple, semi-automated measurement

- Convenient user configuration and storage of multiple sample/solvent recipes
- Software directs user to add solute, calculates volume, and automatically adds solvent to the sample container
- Concentration is automatically calculated and stored along with other sample information for future reference
- Prepares solutions according to weight-to-weight and weight-to-volume methodology

Rapid and economical sample prep

- Solution preparation time: ~2 minutes for most samples
- Flow rate: 0 mL/min to 400 mL/min
- Eliminates the need for expensive and delicate volumetric glassware

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SPS Solution Preparation System

Ordering Information

SPS Solution Preparation System consists of a titrator, electronic balance (as indicated), and proprietary software. Computer is sold separately.

Description	Part #
Solution Preparation System with XSR204 balance and Titronic 300 titrator, automated, 100–240 V*	9724-Z61
Solution Preparation System with Titronic 300 titrator, no balance, automated, 100–240 V *Requires a Mettler-Toledo XSR204 balance (not included)*	9724-Z64
Solution Preparation System with Titronic 300 titrator, no balance, semi-automated, 100–240 V	9724-Z65
Solution Preparation System with XSR204 balance and two (2) Titronic 300 titrators, dual automated, 100–240 V*	9724-Z66
Solution Preparation System with two (2) Titronic 300 titrators, no balance, dual automated, 100–240 V *Requires a Mettler-Toledo XSR204 balance (not included)*	9724-Z67

*Only available to ship within the U.S.

Accessories & Consumables

Description	Part #
Block (8 wells) 115 VAC, 50/60 Hz, 20 mL	9728-X15.20
Block (8 wells) 115 VAC, 50/60 Hz, 40 mL	9728-X15.40
Block (8 wells) 230 VAC, 50/60 Hz, 20 mL	9728-X17.20
Block (8 wells) 230 VAC, 50/60 Hz, 40 mL	9728-X17.40
PTFE lined bottle cap, 1 each	03.5132
Resealing vial cover, 1 each	65.3281
Screwcap lids (24 mm opening); case of 144	65.0026
Stirring bars, 1 each	67.1030
Vials (20 mL amber glass); case of 144	81.2816
Vials (20 mL clear glass); case of 40	81.3023
Vials (20 mL clear glass); case of 144	65.0025
Vials (40 mL clear glass); case of 144	81.2838
Viton sample cap liner with slits, 1 each, miniPV	65.3888
Viton sample cap liner with slits, 1 each, miniPV-H	65.3889
Viton sample cap liner with slits, 1 each, PolyVISC	65.3887

Product Specifications

Dimensions (W x D x H)	**Titrator:** 13.5 cm x 20.5 cm x 31.0 cm (5.3 in x 8.1 in x 12.2 in) **Balance:** 26.3 cm x 45.3 cm x 32.2 cm (10.4 in x 17.8 in x 12.7 in)
Weight	**Titrator:** 2 kg (4.4 lb) **Balance:** 9.1 kg (20.1 lb)
Shipping dimensions (W x D x H)	**Titrator:** 30.5 cm x 30.5 cm x 40.6 cm (12 in x 12 in x 16 in) **Balance:** 53.3 cm x 38.1 cm x 43.2 cm (21 in x 15 in x 17 in)
Shipping weight (with all items)	17.2 kg (38 lb)
Throughput	As low as 2 minutes (per 50 mL solvent)
Flow rate	0 mL/min to 400 mL/min
Operating conditions	15 °C to 30 °C, 10% to 75% relative humidity (non-condensing), Installation Category II; Pollution Degree 2
Electrical specifications	**Titrator:** 100 VAC to 240 VAC, 50/60 Hz, 70 watts power consumption **Balance:** 90 VAC to 240 VAC, 50/60 Hz, 80 watts power consumption
Compliance	CE Mark; EMC directive (2004/108/EC); Low voltage directive (2006/95/EC)

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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