

The semi-automated CANNON® SPS Solution Preparation System uses gravimetric (weight-to-weight) rather than volumetric methodology to prepare highly accurate ( $\pm 0.02\%$  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

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

# CANNON® 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 D4243  
ASTM D4603, ASTM D5226, ASTM D5336, ISO 307, ISO 1628-1, ISO 1628-3, ISO 1628-5, ISO 5351

## Product Features & Benefits

### All-in-one, automated system

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

### Reduced variability

- Accurate results independent of temperature fluctuations
- Concentration accuracy:  $\pm 0.02\%$  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, weight-to-volume and dilution-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



# CANNON® SPS Solution Preparation System

## Ordering Information

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

Description	Part #
Solution Preparation System with XS204 Balance & Titronic 300, automated, 100 - 240 V	9724-Z61
Solution Preparation System with Titronic 300, no balance, automated, 100 - 240 V	9724-Z64
Solution Preparation System with XS204 Balance and (2) Titronic 300's, automated, 100 - 240 V	9724-Z65
Solution Preparation System with (2) Titronic 300's, no balance, automated, 100 - 240 V	9724-Z66
Solution Preparation System with (2) Titronic 300's, no balance, dual automated, 100 - 240 V <i>Requires a Mettler-Toledo XS204 Balance (not included)</i>	9724-Z67
Solution Preparation System, no balance, no Titrator, semi-automated, 100 - 240 V <i>Does not connect to a balance. Requires a Titronic 300 Burette (not included)</i>	9724-Z72
Solution Preparation System, no balance, no Titrator, automated, 100 - 240 V <i>Requires a Mettler-Toledo XS204 Balance (not included) Requires two (2) Titronic 300 Burette (not included)</i>	9724-Z73
Solution Preparation System, no balance, no Titrator, dual automated, 100 - 240 V <i>Requires a Mettler-Toledo XS204 Balance (not included) Requires (2) Titronic 300 Burette (not included)</i>	9724-Z74



## Product Specifications

Dimensions (W x D x H)	<b>Burette:</b> 13.5 cm x 20.5 cm x 31.0 cm (5.3 in x 8.1 in x 12.2 in) <b>Balance:</b> 26.3 cm x 45.3 cm x 32.2 cm (10.4 in x 17.8 in x 12.7 in)
Weight	<b>Burette:</b> 2 kg (4.4 lb) <b>Balance:</b> 9.1 kg (20.1 lb)
Shipping dimensions (W x D x H)	<b>Burette:</b> 30.5 cm x 30.5 cm x 40.6 cm (12 in x 12 in x 16 in) <b>Balance:</b> 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	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	<b>Burette:</b> 100 VAC to 240 VAC, 50/60 Hz, 70 watts power consumption <b>Balance:</b> 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)

## Accessories & Consumables

Description	Part #
Vials (20 mL clear glass); case of 144	65.0025
Vials (20 mL clear glass); case of 40	81.3023
Vials (20 mL amber glass); case of 144	81.2816
Vials (40 mL clear glass); case of 200	81.2838
Screwcap lids (24 mm opening); case of 144	65.0026
Viton sample cap liner with slits, 1 each, miniPV-H	65.3889
Viton sample cap liner with slits, 1 each, PolyVISC	65.3887
Viton sample cap liner with slits, 1 each, miniPV	65.3888
Viton sample cap liner, no slits, 1 each	65.3283
Resealing vial cover, 1 each	65.3281
Low volume vial kit (12 inserts/springs, 1 tube)	65.3284
Low volume vial inserts (12/pkg)	65.0035
Low volume vial springs (12/pkg)	65.0029
PTFE lined bottle cap, 1 each	03.5132
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
Programmable stir block (8 wells) VAC, 50/60 Hz	9728-X17

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](mailto:sales@cannoninstrument.com).



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