



# CellMek SPS

## Sample Preparation System

The CellMek SPS is a sample preparation system for use in flow cytometry laboratories and other laboratories that perform cell analysis. It is a clinical system for in vitro diagnostic use. The purpose of the product is to prepare specimens from a variety of human sources such as whole blood, bone marrow, and other single cell suspensions.

It will automatically aliquot the specimen, add antibodies or other appropriate reagents, add lysing reagents, wash the samples if needed, perform mixing and timed incubations and offer fully prepared samples that are ready for analysis.

The system includes automatic loading of multiple specimens, full connectivity with Laboratory Information Systems (LIS) and barcode tracking of specimens, samples and reagents.

The CellMek SPS Sample Preparation System can prepare samples in carousels compatible with Beckman Coulter Flow Cytometers.

Key features of the CellMek SPS Sample Preparation System include:

- The CellMek Panel Designer Software lets you design your own protocols that fit a wide variety of applications.
- Onboard refrigeration and cap piercing technology reduce daily manual handling of liquid antibodies.
- The system provides onboard capacity of up to 12 DURACartridges (12 tests each) and 53 liquid antibody vials. DURACartridges and liquid antibodies can be combined in the same protocol.
- Spin Wash Chambers provide onboard washing capability.
- All reagents are barcoded to provide automated tracking of reagents for a full audit trail.
- Continuous loading and unloading provide flexibility and efficiency.

### INSTRUMENT

#### Dimensions (W x D X H)

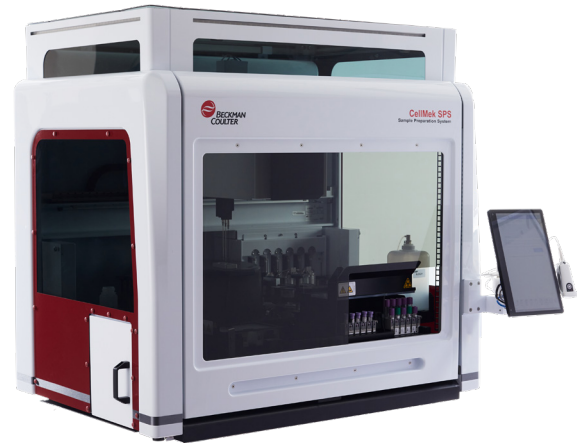
CellMek SPS	Supply Cart	CellMek SPS (Drawer open, door raised)
112 cm x 81 cm x 111.76 cm	80 cm x 47 cm x 53.2 cm	160 cm x 81 cm x 152.4 cm
44 in. x 31.5 in. x 44 in.	32 in. x 19 in. x 21 in.	63 in. x 31.5 in. x 60 in.

#### Weight

Instrument: 187 kg (412 lbs); Supply Cart: 14 kg (31 lbs)

\* tested under the following conditions:

Two cassettes with a total of 8 specimen tubes (4 tubes each) with each specimen assigned to a 4-tube panel. Panel consisted of a specimen wash (4-wash cycles), a liquid antibody cocktail of 100 µL, 15-minute (min) to 45-minute (max) incubation, 2 mL lyse, 10-minute (min) to 15-minute (max) incubation, lyse wash (1-wash cycle).



#### Power Specifications

100-240 VAC, 50/60 Hz, 10 A

#### Acoustic Noise Level

≤65 dBa

#### ENVIRONMENT

##### Antibody Storage Temperature

2°C ≤ x ≤ 8°C (controlled and logged)

##### Ambient Operating Temperature

15.5°C to 26.7°C (59.9°F-80.1°F)

##### Operating Humidity

30-70%

##### Altitude Restrictions

Up to 3000 m (9880 ft.)

##### Heat Dissipation

850 W (2900 btu/hour)

##### Minimum Bench Size

Height: 58.52 cm (23 in.)

Width: 112 cm (44.1 in.)

Depth: 76.2 cm (30 in.)

#### SAMPLE PREPARATION

##### Throughput\*

32 output tubes in less than 4 hours and 15 minutes when running a 4-tube panel

## Specimen dispense Volume:

### Minimum Volume

25 µL<sup>1</sup>

### Maximum Volume

400 µL

### Stain and Antibody dispense Volume

3 - 100 µL

### Lyse and Prep dispense Volume

3 - 2000 µL

<sup>1</sup> Per the Panel Designer, minimum blood aspiration is 25 µL. Incl. conditioning volumes total volume -300 µL if going to cell wash module or 125 µL if going directly to plate.

## Available Incubation Time

### Minimum Incubation Time

0 minutes

### Maximum Incubation Time

60 minutes

## PERFORMANCE

### Pipetting Accuracy

#### Specimen

25 µL ≤ x < 100 µL ± 7%

100 µL ≤ x ≤ 400 µL ± 5%

#### Liquid Antibody

3 µL ≤ x < 10 µL ± 20%

10 µL ≤ x < 50 µL +0%/-20%

50 µL ≤ x ≤ 100 µL +0%/-15%

#### Prep Reagent

100 µL ≤ x < 450 µL ± 5%

450 µL ≤ x ≤ 2000 µL ± 5%

### Pipetting Repeatability

#### Specimen

25 µL ≤ x < 100 µL ≤ 7% CV

100 µL ≤ x ≤ 400 µL ≤ 5% CV

#### Liquid Antibody

3 µL ≤ x < 10 µL ≤ 10% CV

10 µL ≤ x < 50 µL ≤ 5% CV

50 µL ≤ x ≤ 100 µL ≤ 5% CV

#### Prep Reagent

100 µL ≤ x < 450 µL ≤ 5% CV

450 µL ≤ x ≤ 2000 µL ≤ 3% CV

## SPECIMEN TUBE COMPATIBILITY

(Total onboard capacity: 6 cassettes, 5 tubes each)

Cassette Type	CellMek SPS Dead Volume (µL)
<b>Cassette Type A</b>	
Becton Dickinson	
13x75	750 - 900
13x100	850 - 950
Covidien	
13x75	900
Beckman Coulter ClearLab Control Cells	
12x76	750

### Cassette Type A+

Beckton Dickinson	
16x100	1500
Covidien	
16x100	1500

### Cassette Type B

Sarstedt	
13x75	750
13x90	750
11x66	750
13x65	750

### Cassette D

Beckman Coulter IMMUNO-TROL Control Cells	
13x64	750
Covidien	
10.25x50	600

### Cassette E

Sarstedt	
15x92	1300

## FLUIDS

15 L Waste Container

2 L Cell Wash Fluid Bottle

2 L Condensate Bottle

10 L IsoFlow Sheath Fluid Container

## WASH CYCLES

The CellMek Panel Designer software allows the user to define the number of wash cycles (up to 5) for specimen or sample wash.

Spin Only concentrates samples with a volume ≥ 500 µL to an approximate volume of 330 µL.

### Wash Buffer Volume Consumption (mL)

Wash Cycles	Specimen Wash	Sample Wash
1	27.5	17.2
2	30.0	19.4
3	32.5	21.6
4	35.0	23.8
5	37.5	26.0
Startup and Wash Buffer Prime		35.0
Initiate Processing (when "Play" button is pressed)		6.0

### BARCODE SPECIFICATIONS

#### Barcodes supported for Specimen Tubes:

Code 128

Code 39

Interleaved 2-of-5

Codabar

### SOFTWARE

#### Panel Design

CellMek Panel Designer Software (works on separate workstation)

#### Operating System

Microsoft Windows 10 version 1709 or higher

Touch screen

### ORDERING INFORMATION

Part Number	Description
C81704	CellMek SPS w/UPS (100-120V)
C83751	CellMek SPS w/UPS (220-240V)
C87602	48 Well Plate with 2D Barcode (QTY: 25)
Various - custom order	DURACartridge Dry Reagent Panels
C68652	IOTest Vials Empty with Barcode Labels
C87600	IOTest Pierceable Caps (QTY: 100)
C87601	Cyto-Stat Pierceable Caps (QTY: 50)
C68757	Prep Reagent Bottles (Empty)
C40094	Reagents Barcode Labels, Primary (24 vials of 1 product ID)
C68088	Reagents Barcode Labels, Secondary (24 unique product IDs)
A46135	Cassette Type A labels
A46136	Cassette Type B labels
A46138	Cassette Type D labels
C71319	Cassette Type E labels
C38523	Cassette Type A
B08260	Cassette Type A+
B07575	Cassette Type B
B07577	Cassette Type D
C68661	Cassette Type E
C87599	12 x 75mm Tubes (Empty) with Barcode Label (Qty. 250)
C49517	Buffer 2l Bottle w/ Label (3 ea.)
C49558	DI 2l Bottle w/ Label (2 ea.)
C51468	Bleach 2l Bottle w/ Label (2 ea.)



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