



CellMek SPS

Sample Preparation System

The CellMek SPS sample preparation system is intended 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 - 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 µL¹**Maximum Volume**

400 µL

Stain and Antibody dispense Volume

3 - 100 µL

Lyse and Prep dispense Volume

3 - 2000 µL

¹ 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) |
|--|------------------------------|
| Cassette Type A | |
| 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 |
| D00281 | 1D Barcode Labeled 12 X 75 Tube, Daughter Kit (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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