层浪生物
Challenbio

# LongCyte Flow Cytometer

The LongCyte Flow Cytometer is designed for clinical applications. It offers advanced performance, as well as convenient installation and operation. Simplified system settings, data acquisition, and result exporting functions are integrated into the ModelFlower software workflow. The LongCyte Flow Cytometer has a compact design, integrated excitation and detection optical systems. 26 configurations are available with up to 3 lasers and 16 channels. Users can upgrade their configuration at a laser date to use more lasers or optical filters.

## Optical

### Laser   Specifications

Laser constant temperature control at 25°C.

Blue Laser | Wavelength: 488 nm; Power: 50 mW;

Red Laser | Wavelength: 638 nm; Power: 40 mW;

Violet Laser | Wavelength: 405 nm; Power: 60 mW;

Beam spot size: 15 μm x 80 μm.

### Emission Optics

Flow-cell lens > 1.2 NA

Flow Cell dimensions: 420 μm x 180 μm inner chamber

### Detector

Constant temperature control at 25°C.

Scatter light and Fluorescence delivered by fiber optics

to Avalanche Photo Diode detector arrays.

Side Scatter Resolution: Enables separation of 0.1 μm

beads from noise

## Performance

### Forward and Side Scatter Resolution

Scatter performance is optimized for resolving the white

blood cell subsets (lymphocytes, monocytes, and

granulocytes), red blood cells and platelets.

### Sensitivity

FITC: < 50 molecules of equivalent soluble fluorochrome (MESF-FITC)

PE: < 30 molecules of equivalent soluble fluorochrome (MESF-PE)

APC: < 30 molecules of equivalent soluble fluorochrome (MESF-APC)

PB450: < 30 molecules of equivalent soluble fluorochrome (MESF-PB450)

### Fluorescence Resolution

Coefficient of variation: Area of < 2%.

# Electronics

**Data Acquisition Rate**
50,000 events with beads.

**Data Resolution**
Fully digital system with 6.7 decades dynamic range 22 bit

**Signal**
Pulse area, height ,width for every channel

# Fluidics

**Sample Flow Rates**
10-240 uL/min continuously viable
Pre-set Flow Rates: 10, 60 and 120 µL/min

**Fluid Capacity**
Standard 5L tanks

**Sheath Fluid Consumption**
 15 mL/min

**Automated Maintenance Cycles**
Startup (initialize), sample mix, prime, shutdown (daily clean), deep clean.One-touch maintenance

**Absolute counting by volumetric method**
Adopt high-precision metering pump without worrying about clogging

# Autoloader

**Configured with autoloader for free**

**Compatible with various types of plate adapters:**

96-well standard (flat, U- and V-bottom) plates,
40-tube racks：5 mL (12 x 75 mm) polystyrene and polypropylene
40-EP tube racks：1.5 mL and 2 mL microcentrifuge

**Patented sampling probe mixing design**

**Inner and outside cleaning of sampling probe by a swab**

**Carryover< 0.05%.**

# Software

ModelFlower Software, fully featured proprietary application with exportable file formats for offline analysis, if desired. The completed results can also be analyzed while detecting new ones.

The ModelFlower enables direct exporting of the diagnosis report with free layout of the content, and you can have a customized design for it.

Embedded cytokine analysis function,no need of third-party software.

Automatic quality control for monitoring the instrument status. Detailed and comprehensive fault monitoring and alarming functions, Intelligent identification of probe clogging ,sample exhaustion ,sampling probe striking and other abnormalities.

**Language**
English and Chinese

**Data Format**
FCS 2.0,FCS 3.0, FCS 3.1, CSV

**Flexible configuration of LIS export content format.**

**Compensation**
Fast/automatic fluorescence compensation

Ability to import/export compensation values between experiments, using compensation library function

Absolute linear gain amplification, enabling the use of compensation settings between experiments and sample types

**Quality Control**
Auto daily QC routine with Levey-Jennings tracking and logging

# Installation

Dimensions (H x D x W):    445 *420 *390
Weight: 30 kg
Voltage: 100 V ~ 240 V
Power: 160W
Operating Condition Temperature: 15-30 °C
Humidity: 15% RH-80% RH, Non-Condensing

# Configurations

26 available configurations. Instruments can be easily upgraded with additional lasers and color fluorescent channels.

| PN | Lasers | Fluorescence Detectors | Blue Laser Channels (488 nm Laser) | | | | | Red Laser Channels (638 nm Laser) | | | Violet Laser Channels (405 nm Laser) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | BL1 | BL2 | BL3 | BL4 | BL5 | RL1 | RL2 | RL3 | VL1 | VL2 | VL3 | VL4 | VL5 | VL6 |
| | | | 530/30 | 577/25 | 620/30 | 690/50 | 780/60 | 660/20 | 710/20 | 780/60 | 450/50 | 530/30 | 610/20 | 660/20 | 710/50 | 780/60 |
| | | | FITC | PE | ECD | PerCP | PE-Cy7 | APC | APC-A700 | APC-Cy7 | BV421 | Krome Orange | Violet 610 | Violet660 | BV711 | Violet 780 |
| C1040 | 1 | 4 | • | • |  | • | • |  |  |  |  |  |  |  |  |  |
| C1050 | 1 | 5 | • | • | • | • | • |  |  |  |  |  |  |  |  |  |
| C2040 | 2 | 4 | • | • |  | • |  | • |  |  |  |  |  |  |  |  |
| C2041 | 2 | 4 | • | • |  |  |  | • |  | • |  |  |  |  |  |  |
| C2042 | 2 | 4 | • | • |  |  |  |  |  |  | • | • |  |  |  |  |
| C2050 | 2 | 5 | • | • |  | • |  | • |  | • |  |  |  |  |  |  |
| C2060 | 2 | 6 | • | • |  | • | • | • |  | • |  |  |  |  |  |  |
| C2061 | 2 | 6 | • | • |  | • |  |  |  |  | • | • | • |  |  |  |
| C2080 | 2 | 8 | • | • | • | • | • | • | • | • |  |  |  |  |  |  |
| C2081 | 2 | 8 | • | • |  | • | • |  |  |  | • | • | • | • |  |  |
| C2082 | 2 | 8 | • | • | • | • | • |  |  |  | • | • | • |  |  |  |
| C2090 | 2 | 9 | • | • |  | • | • |  |  |  | • | • | • | • |  | • |
| C2100 | 2 | 10 | • | • | • | • | • |  |  |  | • | • | • | • |  | • |
| C2110 | 2 | 11 | • | • | • | • | • |  |  |  | • | • | • | • | • | • |
| C3080 | 3 | 8 | • | • |  | • | • | • |  | • | • | • |  |  |  |  |
| C3090 | 3 | 9 | • | • |  | • | • | • |  | • | • | • | • |  |  |  |
| C3100 | 3 | 10 | • | • |  | • | • | • | • | • | • | • | • |  |  |  |
| C3101 | 3 | 10 | • | • | • | • | • | • |  | • | • | • | • |  |  |  |
| C3110 | 3 | 11 | • | • | • | • | • | • | • | • | • | • | • |  |  |  |
| C3111 | 3 | 11 | • | • |  | • | • | • |  | • | • | • | • |  | • | • |
| C3112 | 3 | 11 | • | • | • | • | • | • |  | • | • | • | • |  | • |  |
| C3130 | 3 | 13 | • | • | • | • | • | • | • | • | • | • | • |  | • | • |
| C3131 | 3 | 13 | • | • | • | • | • | • | • | • | • | • | • | • |  | • |
| C3132 | 3 | 13 | • | • |  | • | • | • | • | • | • | • | • | • | • | • |
| C3133 | 3 | 13 | • | • | • | • | • | • |  | • | • | • | • | • | • | • |
| C3140 | 3 | 14 | • | • | • | • | • | • | • | • | • | • | • | • | • | • |