



Better Counts for Better Science

# LUNA FX7™

Automated Cell Counter



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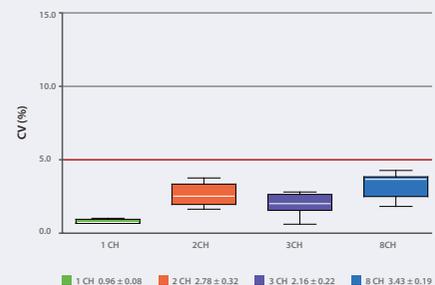
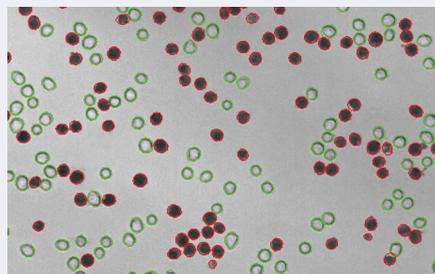
Introducing the LUNA-FX7™ - the newest member of the award-winning LUNA™ Cell Counter family. The LUNA-FX7™ is our most powerful cell counter to date, with unmatched cell counting accuracy, new 1, 3 and 8-chamber slide options, state of the art optics, dual fluorescent and brightfield detection, precision autofocus, and 21 CFR PART 11 compliance. The LUNA-FX7™ has built-in quality control features and precision validation slides for monitoring QC and production. By combining the trademark ease of use characteristic of all LUNA™ counters with the enhanced accuracy, higher throughput, and software upgrades - the LUNA-FX7™ will improve the efficiency and security of your lab's workflow.

## Better Counts for Better Science



## Ending the Accuracy Debate

**Expanded cell concentration.** The debate on the gold standard in cell counting accuracy still rages between manual counting and automated counting. The impact of counting volume on the accuracy and precision of cell counting is often overlooked. The LUNA-FX7™ has a maximum counting volume of 5.1  $\mu\text{L}$ . Manual counting and most other automated cell counters use a counting volume of 0.5  $\mu\text{L}$ . The 10X greater counting volume of the LUNA-FX7™ makes it one of the most accurate automated counting devices on the market. The LUNA-FX7™ will end this debate.





LOAD



COUNT



RESULTS

## Convenient and High-speed Workflow

**As easy as 1-2-3.** With a highly intuitive user interface, the LUNA-FX7™ eliminates unnecessary operations. In THREE easy steps, the precise autofocus feature produces accurate and reliable results in less time. LOAD – COUNT – READ RESULTS. It's that easy.

The LUNA-FX7™ truly streamlines workflow creating an efficiently run lab with exceptionally accurate data.

## Simple Optimization & Data Management

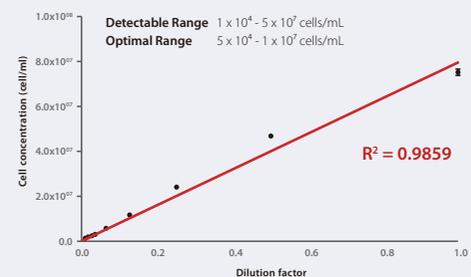
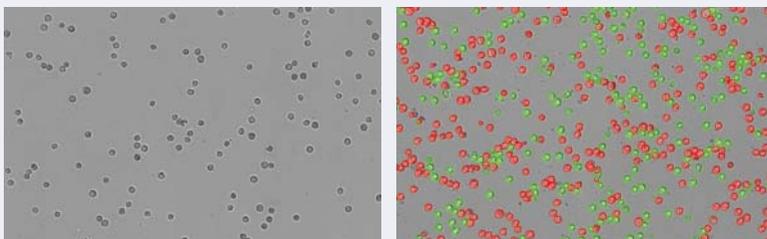
**Manage Your Data with Precision.** With brightfield and dual fluorescent detection options, multiple counting modes and customizable protocols, the LUNA-FX7™ gives you control over your data. You have the flexibility to optimize for your cell and sample type with the assurance of built-in quality control features. The re-analysis feature lets you easily review and analyze previous counts using different protocol settings providing more options for data parsing. Counting results can be transferred and saved by USB, Wi-Fi or Ethernet connection. In addition, results may be exported as a CSV summary or a comprehensive PDF report with raw and tagged images.



## Reliable Results across a Wide Concentration Range

**Meeting demand.** Researchers across the globe have spoken and demanded an extremely accurate cell counter that has a fast and reliable autofocusing ability that can produce high quality images. The state-of-the-art optical system, superior dynamic range, and advanced declustering algorithm allow the LUNA-FX7™ to meet this demand.

**Diverse Cell Counting Applications.** The LUNA-FX7™'s broad cell detection range,  $1 \times 10^4$  cells/mL to  $5 \times 10^7$  cells/mL eliminates the need to dilute or concentrate samples, making the LUNA-FX7™ suitable for diverse cell counting applications including single-cell sequencing and CAR-T cell therapy.



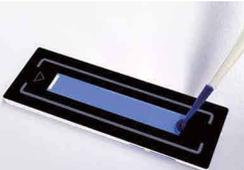
# Beyond Cell Counts

The LUNA-FX7™ provides the flexibility to meet a multitude of cell counting needs. In addition to the need for accurate and reliable counts, bio-pharmaceutical and manufacturing facilities face unique challenges with regards to meeting QA/QC criteria, user management, and data security compliance. The LUNA-FX7™'s new features such as the Bioprocess Mode, Quality Control Mode, and the CountWire™ Software will help companies and facilities meet and surpass quality and regulatory requirements.



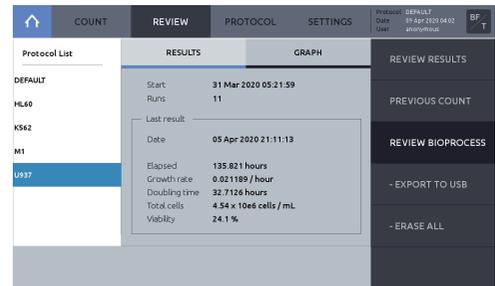
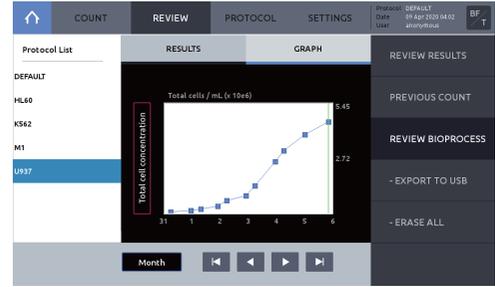
## Multiple Slide Options, Simple Handling

**Versatile Slide Options.** The LUNA-FX7™ can accommodate multiple slide options. The multi-channel pipette compatible 8-channel slides maximize throughput; the 3-channel slides facilitate easier data handling and organization; and the single channel slides, with a nearly 5  $\mu\text{L}$  counting volume, promote increased accuracy and precision. With 'One and Done' slide insertion, a slide is inserted once and the LUNA-FX7™ will count all the chambers without the need to remove and reinsert the slide.

	NEW LUNA™ 1-Channel Slides	LUNA™ Cell Counting Slides / PhotonSlides™	NEW LUNA™ 3-Channel Slides	NEW LUNA™ 8-Channel Slides
Compatible slides				
Sample throughput	1 sample	Up to 2 samples	Up to 3 samples	Up to 8 samples
Sample loading volume	50 $\mu\text{L}$	10 $\mu\text{L}$ / chamber	10 $\mu\text{L}$ / chamber	10 $\mu\text{L}$ / chamber
Maximum analysis volume	5.1 $\mu\text{L}$	1.3 $\mu\text{L}$ / chamber	1.3 $\mu\text{L}$ / chamber	0.5 $\mu\text{L}$ / chamber

## Unique Bioprocess Mode

**Cell Monitoring.** The LUNA-FX7™ offers a Bioprocess mode that monitors cell health and growth and tracks bioprocessing activities. By easily tagging a batch to a specific protocol, the progression of multiple batches may be monitored. The Bioprocess application calculates doubling times and charts proliferation curves, allowing you to trace the production and health of your cells. With up to a terabyte of internal storage, the LUNA-FX7™ can store days, weeks, months, and years of counting results. Cell number concentrations and viabilities are provided with a single tap on the screen.



The screenshot shows the 'RESULTS' tab for protocol U937. The 'Last result' is dated 05 Apr 2020 21:11:13. The following table summarizes the key performance indicators:

Parameter	Value
Elapsed	135.821 hours
Growth rate	0.02189 / hour
Doubling time	22.7126 hours
Total cells	4.54 x 10 <sup>6</sup> cells / mL
Viability	24.1 %

The interface also shows 'Start' (31 Mar 2020 05:21:59) and 'Runs' (11). The right sidebar contains the same navigation buttons as the previous screenshot.

## Quality Control - Trust in Your Data

**Innovation at Your Fingertips.** Our innovative quality control feature ensures that you can be confident in your data. In conjunction with our pre-fixed fluorescent or brightfield validation slides, the QC functions allow you to store, monitor, and analyze instrument performance over time. By establishing user-defined acceptance limits, the automated tracking and charting functions will help ensure compliance with the most rigorous QA/QC criteria.



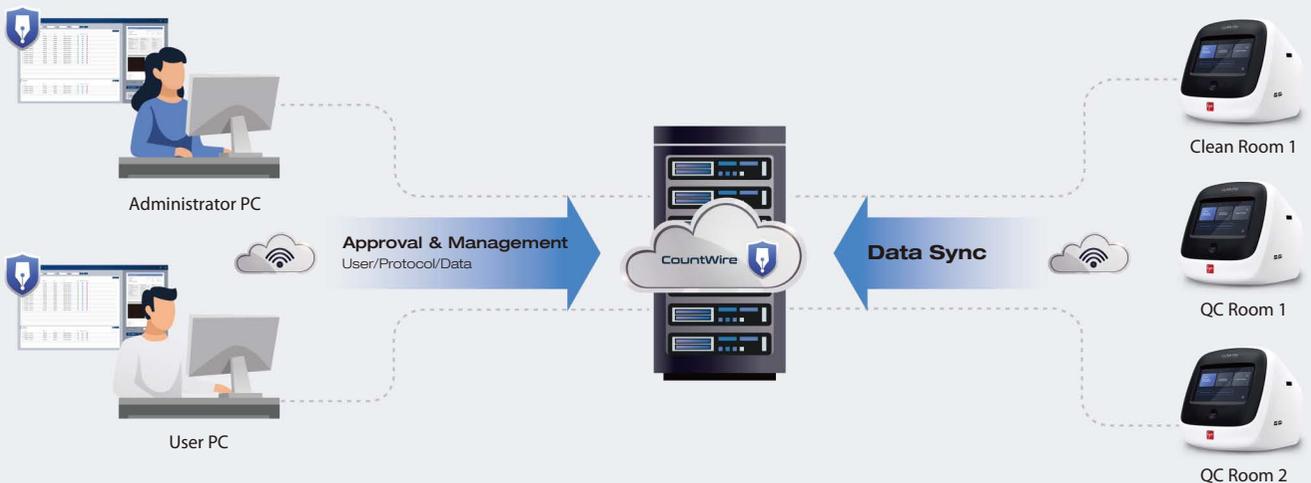
# CountWire™-FDA 21 CFR Part 11

**FDA Regulation Ready.** Established by the U.S. Food & Drug Administration, 21 CFR Part 11, defines the criteria under which electronic records and electronic signatures are considered trustworthy, reliable, and equivalent to paper records. The FDA 21 CFR Part 11 regulations focus on the security and confidentiality of information, administration of e-documents, and the approval requirements for e-documents and signatures.

The LUNA-FX7™ is equipped with the innovative **CountWire™ software**. With user-accessibility management including encrypted activity logs, it delivers data securely and remains compliant with 21 CFR Part 11 regulations and GMP requirements.



**The CountWire™: Remote Access.** The CountWire™ software enables remote access and data management for multiple LUNA-FX7™s connected to your network. With the right level of user access, you can retrieve data from the LUNA-FX7™ in the clean room next door without leaving your desk.



# Everything you love about our LUNAs and more

## Unmatched cell counting accuracy

- ✓ All-new optics
- ✓ Increased counting volume for the lowest CV per count
- ✓ Fast and precise autofocus
- ✓ More robust and sophisticated counting algorithms
- ✓ Customizable cell-detection protocols

## Optimized for production facilities

- ✓ Quality control and validation software
- ✓ Range of standard validation slides
- ✓ Bioprocess monitoring software

## 21 CFR Part 11 ready

- ✓ User log-in and approval management
- ✓ Encrypted logs for audit trails
- ✓ Data security
- ✓ Data storage and control by network

## SPECIFICATIONS

LUNA-FX7™ Automated Cell Counter L70001



LUNA-FX7™ Automated Cell Counter Bioprocess L70002



Onboard storage	250 GB	1 TB
Software	Standard software	Bioprocess software
Cell concentration range	Detectable: $1 \times 10^4$ - $5 \times 10^7$ cells/mL, optimal: $5 \times 10^4$ - $1 \times 10^7$ cells/mL	
Cell diameter range	Detectable: 1-90 $\mu$ m, optimal: 3-60 $\mu$ m	
Optics	Brightfield, dual fluorescence	
Green fluorescence	Ex : 470 $\pm$ 20 nm, Em : 530 $\pm$ 25 nm	
Red fluorescence	Ex : 530 $\pm$ 20 nm, Em : 620 $\pm$ 30 nm	
Focusing	Auto focus / Manual focus	
Display	7" Capacitive touch screen LCD	
Data format	PDF, CSV, TIFF	
Data export	USB, WiFi, Ethernet	
Printer	External printer (optional)	
21 CFR Part 11	CountWire™ software (optional)	
User management	CountWire™ software (optional)	
IQ/OQ	Yes (optional)	Yes
Dimensions	245 x 280 x 240 mm	
Weight	5.0 kg	

## CELL LINES VALIDATED On The LUNA-FX7™ Automated Cell Counter

Cell Type	Vendor	Animal	Organ
3T3-L1	ATCC	Mouse	Embryo
A549	ATCC	Human	Lung
AsPC-1	ATCC	Human	Pancreas
BAEC	ATCC	Cow	Aorta
Colon26L5	ATCC	Mouse	Colon carcinoma
DLD-1	ATCC	Human	Colon
H1975	ATCC	Human	Lung
HCT116	ATCC	Human	Colon
Hek-293	ATCC	Human	Embryonic kidney
HL60	ATCC	Human	Peripheral blood
J774A.1	ATCC	Mouse	Ascites
RAW264.7	ATCC	Mouse	Abelson murine leukemia virus-induced tumor; ascites
YSY	ATCC	Human	Bone marrow
U2OS	ATCC	Human	Bone
U937	ATCC	Human	Pleura/pleural effusion, lymphocyte, Myeloid
K562	ATCC	Human	Bone marrow
PBMC	ATCC	Human	Blood
M1	ATCC	Mouse	Myeloblast

This is partial list of cell line tested on the LUNA-FX7™.

**ORDERING INFORMATION**

LUNA-FX7™		L70001	LUNA-FX7™ Automated Cell Counter	1 unit
		L70002	LUNA-FX7™ Automated Cell Counter, Bioprocess Package	1 unit
Counting Slides	1-channel slides 50 µL <i>FX7-only</i>	L72011	LUNA™ 1-Channel Slides, 50 Slides	1 box
		L72012	LUNA™ 1-Channel Slides, 500 Slides	10 boxes
		L72013	LUNA™ 1-Channel Slides, Sterile - gamma-irradiated, 500 Slides	10 boxes
	8-channel slides 10 µL <i>FX7-only</i>	L72001	LUNA™ 8-Channel Slides, 50 Slides	1 box
		L72002	LUNA™ 8-Channel Slides, 500 Slides	10 boxes
		L72003	LUNA™ 8-Channel Slides, Sterile - gamma-irradiated, 500 Slides	10 boxes
	3-channel slides 10 µL <i>FX7-only</i>	L72021	LUNA™ 3-Channel Slides, 50 Slides	1 box
		L72022	LUNA™ 3-Channel Slides, 500 Slides	10 boxes
		L72023	LUNA™ 3-Channel Slides, Sterile - gamma-irradiated, 500 Slides	10 boxes
	2-channel slides 10 µL <i>Brightfield</i>	L12001	LUNA™ Cell Counting Slides, 50 Slides	1 box
		L12002	LUNA™ Cell Counting Slides, 500 Slides	10 boxes
		L12003	LUNA™ Cell Counting Slides, 1000 Slides	20 boxes
2-channel slides 10 µL <i>Fluorescence</i>	L12005	PhotonSlide™, 50 Slides	1 box	
	L12006	PhotonSlide™, 500 Slides	10 boxes	
	L12007	PhotonSlide™, 1000 Slides	20 boxes	
Validation Slides		L72030	Cell Counter Validation Slide (fluorescence)	1 unit
		L72040	Cell Counter Validation Slide (Brightfield)	1 unit
Reagents		F73101	LUNA-FX7™ Calibration Beads Kit	1 kit
		T13001	Trypan Blue Stain, 0.4%	2 x 1 mL
		T13011	Trypan Blue Stain, 0.4%, Sterile-filtered	2 x 1 mL
		L13002	Erythrosin B Stain	2 x 1 mL
		F23001	Acridine Orange/Propidium Iodide Stain	2 x 0.5 mL
		F23011	Acridine Orange/Propidium Iodide Stain, Sterile-filtered	2 x 0.5 mL
CountWire™		L71001	CountWire™ Basic (CountWire™ Data Storage + 1 PC License)	1 set
		L71002	CountWire™, Additional PC License	1 unit
IQ/OQ		L74003	LUNA-FX7™ IQ/OQ Protocol	1 copy
Printer-related Items		P17001	Thermal Printer	1 unit
		P17002	Thermal Printer Refills, Paper and Ribbon	2 x 5 rolls



**HEADQUARTERS**

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