ANTECH

CellVita Series CO_2 Incubator

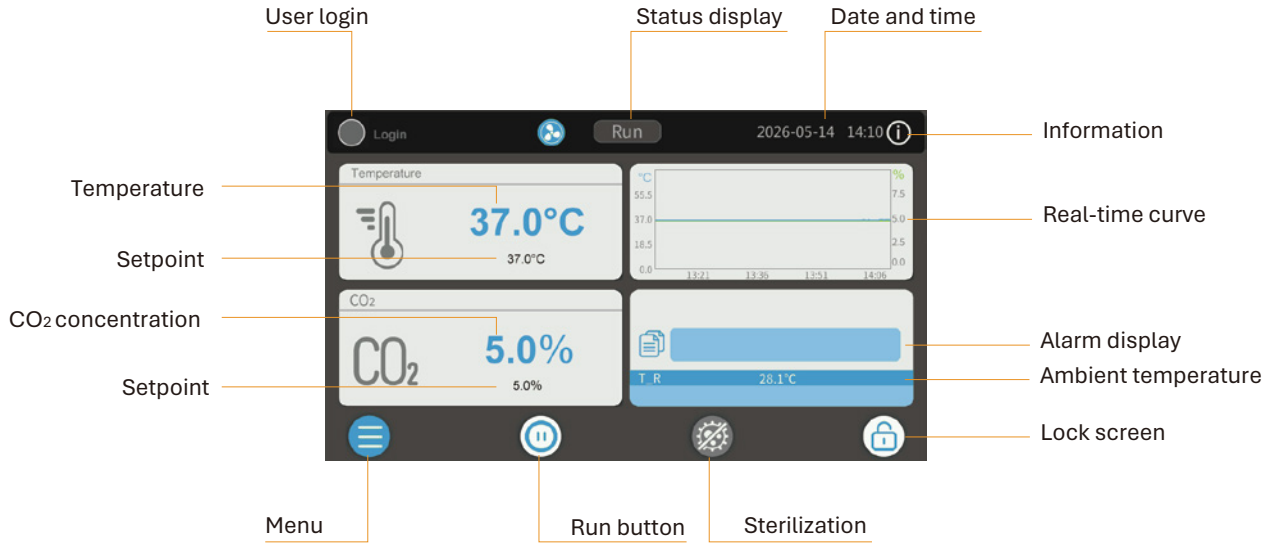
Proven conditions, optimal cell cultures

Introduction

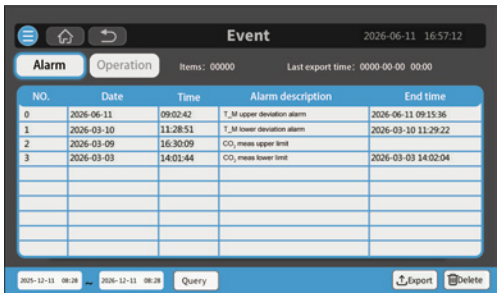
The Antech Scientific CellVita Series CO_2 incubators are engineered to meet the stringent demands of high-value cell culture. By maintaining a highly stable physiological environment, minimizing contamination risks, and offering a seamless user experience, the CellVita Series guarantees maximum viability and high reproducibility for sensitive biological samples.

Touchscreen Controller: Intelligent & Intuitive

The CellVita Series features a high-resolution, user-centric touchscreen controller that delivers exceptional visual clarity and intuitive menu navigation. The capacitive touchscreen is optimized for rapid response even when operated with laboratory gloves.

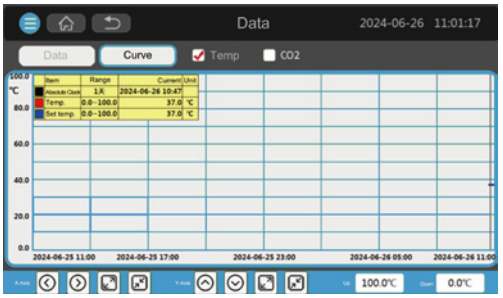


Event & data



Event and data are continuously logged and downloadable via USB, ensuring full traceability and compliance for seamless quality control and audit readiness.

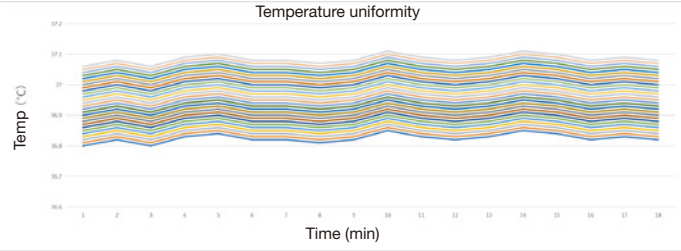
Built-in Graphic



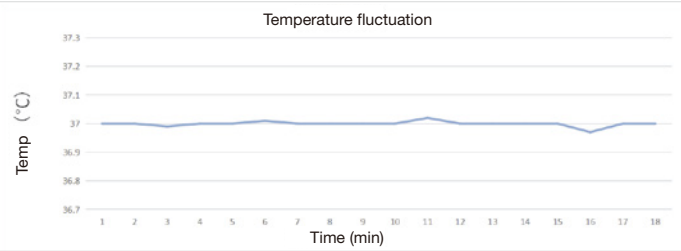
Achieve total peace of mind with continuous, on-screen curves that illustrates chamber conditions in real time.

Temperature Control: Uniformity You Can Trust

In cell culture, consistency is everything. Powered by a PID-controlled six-sided air-jacketed heating system, CellVita Series delivers an outstanding temperature uniformity of ±0.35°C across the entire chamber.



Temp Uniformity



Temp Variation

- Zero Cold Spots: Continuous, even distribution of warmth from all six sides.
- Rapid Recovery: Advanced air-jacket technology ensures swift recovery after door openings.
- Optimal Cell Health: Minimizes environmental fluctuations to secure batch-to-batch reproducibility.

Upgrade to CellVita—where uniform warmth meets uncompromised cell health. Empower your next breakthrough with precision.

CO_2 Control: Accuracy Meets Convenience

Unmatched Precision

Engineered for sensitive cell cultures, the CellVita Series utilizes a state-of-the-art Infrared (IR) CO_2 sensor that delivers ultra-precise concentration management with a control precision of ±0.1%.

Sensor Key Features

- NDIR dual beam technology
- Temperature and pressure compensated
- Heat-sterilizable up to 190° C
- Long lifetime
- Humidity correction

Effortless Convenience

- 180°C High-Heat Resistance: The robust IR sensor remains in situ during the sterilization cycle—no manual removal required, eliminating handling errors & potential contaminations.
- Recalibration-free: Integrated temperature and humidity compensation ensures the sensor retains factory-grade precision. No recalibration is needed after sterilization.

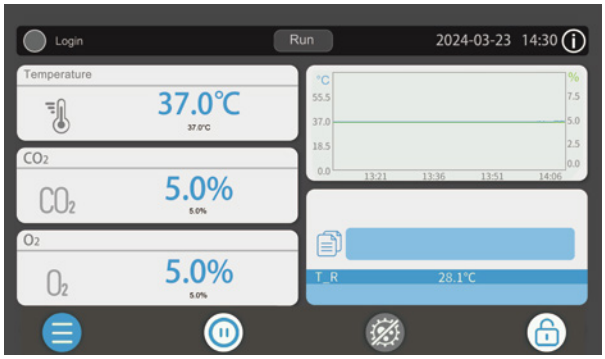
Advantages Over TC Sensors

Unlike traditional thermal conductivity (TC) sensors, this sophisticated optical IR sensor remains entirely unaffected by temperature and humidity fluctuations inside the chamber. This guarantees significantly shorter recovery times after door openings and maintains a uniform stability for sensitive cultures.

By keeping CO_2 boundaries strictly controlled, it actively prevents stressful pH shifts in culture media, protecting overall cell viability.

Oxygen Control (tri-gas, optional)

The CellVita Series offers an optional, precise oxygen control kit (controllable 1~21% O_2) to create physiological hypoxia, simulating in vivo microenvironments, which is essential for stem cells, primary cells, tumor cells, immune cells and organoids. Key advantages include superior cell proliferation, preserved functionality, more physiologically relevant results. By avoiding atmospheric hyperoxia, it significantly improves experimental reproducibility and translatability.
Pro Tip: A multi-inner-door kit is recommended for reduced gas consumption and faster recovery after door openings.

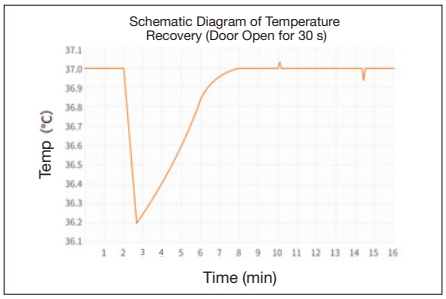


Fast Recovery: Precision without Delay

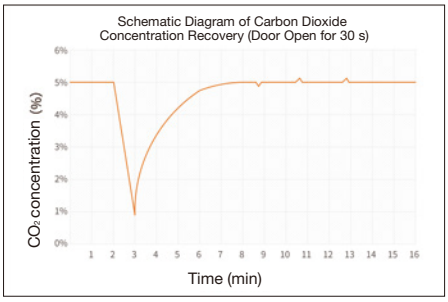
In high-demand laboratories, frequent door openings are inevitable but present a severe threat to cell viability. The CellVita Series features a highly responsive control system paired with a forced-air convection loop to shorten recovery times down to mere minutes.

Ultra-Fast Parameter Recovery

Following a standard 30-second door opening, chamber temperature and CO_2 concentration recover within 5 minutes.



Temperature recovery curve



CO_2 concentration recovery curve

Eliminating Cellular Stress

This rapid recovery eliminates the risk of pH fluctuations in the culture media, safeguarding sensitive cells, such as stem cells and primary cultures, from metabolic shock and phenotypic drift.

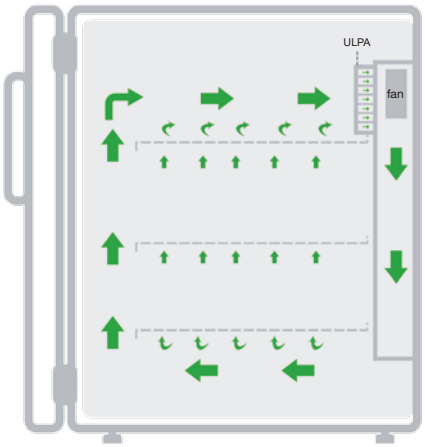
Condensation-Free Stability

Accelerated thermal recovery prevents cold-spot formation on interior surfaces, eliminating condensation and cutting off the primary breeding ground for fungal contamination.

Maximizing Experimental Reproducibility

By compressing recovery time to mere minutes, CellVita guarantees that your cells spend most of its incubation period in a stable environment, delivering data consistency and GMP audit compliance.

Forced-air Convection with ULPA Filtration

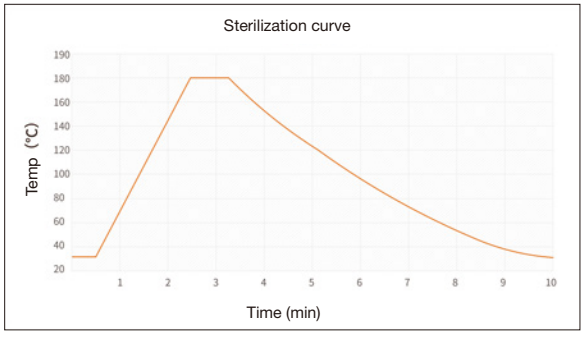


The built-in blower and ULPA filter (ULPA filter not available for CellVita 55) generate a gentle forced air convection in chamber, bringing various benefits for cell culture:

- Uniformity: high uniformity of temperature, CO_2 concentration and humidity in chamber
- Cleanliness: ISO Class 5 cleanliness in chamber (for CellVita 185 & CellVita 260)
- Recovery: faster environment recovery after door openings:
  - Temperature & CO_2 concentration resumes within 4 or 5 minutes after a 30-second door opening
  - ISO Class 5 cleanliness resumes within 4 or 5 minutes after a 30-second door opening (for CellVita 185 & CellVita 260)

180°C Dry Heat Sterilization: 6-log SAL

In high-value cell culture, stem cell therapy, and translational medicine, contamination is the ultimate threat to experimental integrity. The CellVita Series CO_2 incubator integrates a fully automated, overnight 180°C Dry Heat Sterilization cycle, establishing an uncompromising barrier against microbial risks. Sterilization reminder can be set on touch screen.



Definitive Microbial Eradication (6-log SAL)

Operating at a sustained 180°C, the cycle utilizes thermal oxidation to irreversibly denature microbial proteins and liquefy lipids. It achieves a proven Sterilization Assurance Level (SAL) of 6-log, completely eliminating the most resilient biological threats, including Geobacillus stearothermophilus endospores, stubborn fungi, vegetative bacteria, and mycoplasma.

Microorganisms eliminated during the high-temperature sterilization cycle

Microorganism	ATCC	Average colony count of control group (CFU/piece)	Log reduction value (KL)	Kill rate (%)
Escherichia coli	8099	1.0×10^7	> 6	> 99.9999
Staphylococcus aureus	6538	9.0×10^6	> 6	> 99.9999
Pseudomonas aeruginosa	15442	7.8×10^6	> 6	> 99.9999
Staphylococcus albus	8032	8.8×10^6	> 6	> 99.9999
Bacillus atrophaeus spores	9372	1.1×10^7	> 6	> 99.9999
Geobacillus stearothermophilus	7953	1.2×10^7	> 6	> 99.9999
Aspergillus brasiliensis	16404	2.2×10^7	> 6	> 99.9999

Note: Mean value of three independent experiments performed on different dates; sterilization temperature: 180°C, exposure time: 45 min

True Depyrogenation (Endotoxin Destruction)

While standard disinfection methods (such as lower temperature dry heating, 90°C moist heat, UV radiation) merely kill regular bacteria, they leave bacterial endotoxins (pyrogens) intact. 180°C dry heat is the only built-in physical method capable of completely degrading and inactivating pyrogens, ensuring a pristine physiological environment for sensitive primary and stem cell lines.

Zero-Residue Safety

Unlike chemical fumigation techniques (e.g., vaporized hydrogen peroxide), dry heat is a purely physical process. It guarantees zero toxic chemical outgassing or residues, eliminating any risk of cellular stress or chemical interference with your precious cultures, while ensuring maximum safety for laboratory personnel.

Total Chamber Coverage

The meticulously engineered thermal airflow ensures uniform heat penetration into every square millimeter of the interior—including the fan assembly, shelving tracks, and structural blind spots. Advanced, heat-resistant IR sensors remain in situ during the cycle, preventing secondary contamination from manual dismantling.

Regulatory Compliance

The 180°C sterilization process provides a push-button, highly reproducible, and fully automated cycle that drastically simplifies standard operating procedures (SOPs). By aligning seamlessly with the rigorous dry-heat sterilization standards defined by the USP (United States Pharmacopeia) and EP (European Pharmacopoeia), this technical approach guarantees compliance and audit readiness for clinical and industrial GMP laboratories.

MicroStat™ Antimicrobial Powder Coating

The CellVita Series features the MicroStat™ antimicrobial powder coating on exterior surfaces. It actively inhibits the adhesion and growth of common contaminants such as S. aureus and E. coli, reducing cross-contamination risks. By resisting microbial-induced discoloration and corrosion, MicroStat™ keeps your incubator looking new for years and simplifies routine cleaning.

Duration of action	Test Item	Test Strains	Colony count of negative control after 24h (CFU/carrier)	Colony count of blank sample after 24h (CFU/carrier)	Colony count of test sample after 24h (CFU/carrier)	Antibacterial rate (%)
24 h	Antibacterial Performance	Escherichia coli	2.8×10^{9}	3.1×10^{9}	1.7×10^{7}	99.45
		Staphylococcus aureus	6.2×10^{8}	9.1×10^{8}	3.5×10^{5}	99.96
	Durability of Antibacterial Property	Escherichia coli	4.6×10^{9}	5.4×10^{9}	<1000	>99.99
		Staphylococcus aureus	5.5×10^{8}	6.5×10^{8}	<1000	>99.99

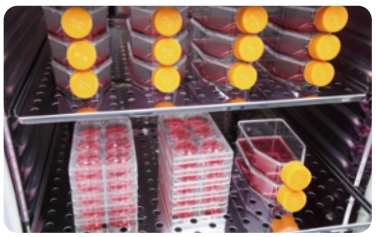
Ergonomic design

Mirror-Polished Stainless Steel Interior

The seamless, mirror-polished chamber eliminates cracks and crevices where contaminants can hide. This ultra-smooth surface significantly reduces bacterial attachment, ensures effortless cleaning, and provides maximum protection for your high-value cell cultures.

Perforated Shelves with Anti-slip design

Featuring an anti-slip safety design, these pull-out shelves eliminate the risk of accidental drops during retrieval. Shelf height adjustable, offering maximum flexibility for various applications.



Tempered Glass Inner Door with Access Port

The inner door allows sample observation without disturbing the incubation climate, while the access port enables seamless external probe connections, maximizing stability and contamination control.

Cloud-based Monitoring, Optional

CellVita Series offers cloud-based 24/7 remote monitoring via its built-in Wi-Fi module. This ensures real-time performance tracking and instant mobile alerts for critical deviations, maximizing culture security, data integrity, and ultimate peace of mind.

Wi-Fi Enabled | Cloud Server | Various Devices | Global Access | Email Alarm | SMS Alarm

Ordering information

Standard equipment	Description	Cat. No. CellVita 55	Cat. No. CellVita 185	Cat. No. CellVita 260
CellVita CO_2 incubator				
CellVita CO_2 incubator	220V, 50/60Hz	6111110	6111210	6111310
CellVita CO_2 incubator	120V, 60Hz	6111140	6111240	6111340
Options (factory installed: order with standard equipment)				
Door hinged	Left	6100180	6100280	6100380
O_2 control	O_2 control, Vol-% 1 to 21 incl. 2 gas tight inner doors	6100110	-	-
O_2 control	O_2 control, Vol-% 1 to 21 incl. 3 gas tight inner doors	-	6100210	-
O_2 control	O_2 control, Vol-% 1 to 21 incl. 6 gas tight inner doors	-	6100220	-
O_2 control	O_2 control, Vol-% 1 to 21 incl. 4 gas tight inner doors	-	-	6100310
O_2 control	O_2 control, Vol-% 1 to 21 incl. 8 gas tight inner doors	-	-	6100320
2 gas tight inner doors		6100120	-	-
3 gas tight inner doors		-	6100230	-
6 gas tight inner doors		-	6100240	-
4 gas tight inner doors		-	-	6100330
8 gas tight inner doors		-	-	6100340
Humidity display		6100030	6100030	6100030
Water level monitor		6100040	6100040	6100040
Wi-Fi connection, with 10-year cloud platform service		6100050	6100050	6100050
Accessories				
Additional standard shelf, max. load 15 kgs		6100150	6100250	6100350
Heavy duty shelf, max. load 20 kgs		6100160	6100260	6100360
Roller base		6100170	6100270	6100370
Gas cylinder switch		6100010	6100010	6100010
Gas regulator for CO_2/N_2		6100020	6100020	6100020

Technical specifications

Model			CellVita 55	CellVita 185	CellVita 260
Basic	Chamber volume	liter	55	185	260
	Controller		7" touch screen		
	Construction		Air jacket		
	CO_2 sensor		Infrared (IR) sensor		
	Sterilization		180°C dry heat		
Temperature	Control		6-sided direct heat & air jacket, PID controlled		
	Range	°C	Ambient +3 to 60		
	Accuracy	°C	±0.1		
	Uniformity	°C	±0.35		
	Fluctuation	°C	±0.1		
	Ambient range	°C	18~34		
	Temperature recovery time	minutes	≤4	≤4	≤5
CO_2	Control		PID controlled		
	Range	Vol - %	0~20		
	Accuracy	Vol - %	±0.1		
	CO_2 sensor		Infrared (IR) sensor		
	CO_2 recovery time	minutes	≤4	≤4	≤5
	Inlet pressure	bar	0.8~1.2		
	Gas purity		Min. 99.5%; industrial quality min.		
	CO_2 inlet		ID 6mm hose with 0.2µm inlet filter		
O_2, optional	Range	Vol - %	1~21		
	Accuracy	Vol - %	±0.1		
	O_2 sensor		Zirconium oxide		
	Multi gas-tight inner doors		2	3 or 6	4 or 8
	Inlet pressure	bar	0.8 ~ 1.2		
	Gas purity		Min. 99.5%; industrial quality min.		
	O_2 inlet		ID 6mm hose with 0.2µm inlet filter		
Humidity	Range	% RH	≥90		
	Humidity reservoir		Water pan, Max. 3 L		
	Humidity display		Optional		
	Water level monitor		Optional		
Sterilization	Cycle temperature	°C	180		
	Cycle duration		< 10 h		
	Sterilization reminder		Yes		
Control	Controller		7" touch screen		
	Data & event		Data & event memory, download via USB port		
	Data outputs		USB port & RS 485		
	Built-in graphic		Temperature, CO_2 concentration		
	Alarm as standard		Temperature, CO_2 concentration, door open, sensor failure		
	Alarm as optional		O_2 concentration, RH, low water level		
	Wi-Fi connection for remote monitoring		Optional		
Construction	Type		6-sided heating, air jacket		
	Interior chamber		SUS 304, mirror-finished		
	Exterior casing		Electrogalvanized steel with MicroStat™ antimicrobial powder coating		
	Access port		Ø32mm x 1, at back		
	Sampling hole		Ø6mm x 1, on inner door		
	Inner chamber blower		Yes		
	ULPA filter		-	Yes	Yes
	Stackable kit		Yes		
Dimensions	Internal dimensions (w x h x d)	mm	310×380×470	500×570×650	555×570×832
	External dimensions (w x h x d)	mm	530×635×690	715×820×870	775×820×1055
	Operating weight	Kg	60	85	110
Shelves	Dimensions (w x d)	mm	306×270	490×461	549×461
	Number std./max.	pcs	2/12	3/12	3/12
	Max. load per shelf	Kg	15		
	Construction		Perforated SUS 304, anti-slip design, distance adjustable		
Electrical	Power supply		220V, 50/60Hz; 120V, 60Hz		
	Norminal power at 37°C	W	65	85	110
	Maximum power	W	600	1300	1600
	Full load amps, 220V, 50/60Hz	A	3	6	7
	Full load amps, 120V, 60Hz	A	6	12	14

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