

RWD | 瑞沃德

D165H CO₂ Incubator

R W D Life Science

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New model of CO₂ incubator-D165H

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The new 180 °C high-temperature sterilization incubator (Optional oxygen control module) will be launched in Dec 2023.

Product features:

(Optimization and upgrade points compared to D180)

- 1. **180 °C high-temperature sterilization.**
- 2. **Optional oxygen control module** to enhance the flexibility of cell culture.
- 3. **Reservoir type humidification system** increases humidity recovery.
- 4. **Optional 3 segmented inner doors** to reduce the impact of door opening on parameters.
- 5. Electronic signature and user management in accordance with **FDA 21CFR PART11.**
- 6. **Remote monitoring of incubator status** and receiving alarm information **through the APP.**



Advantages of D165H

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Stable

- High-resistant IR sensor
- Six-sided air jacketed heating method
- Stable and uniform parameters
- Fast parameter recovery



Purity

- In-chamber HEPA filter
- **180°C high temperature sterilization**



Intelligent

- 7-inch touchscreen
- Automatic data record and curve display



Safe

- Multiple alarm system
- **Remote monitoring through APP**
- **In accordance with FDA 21CFR PART11**



Flexible

- **Optional oxygen control**
- **Optional three small sub doors**

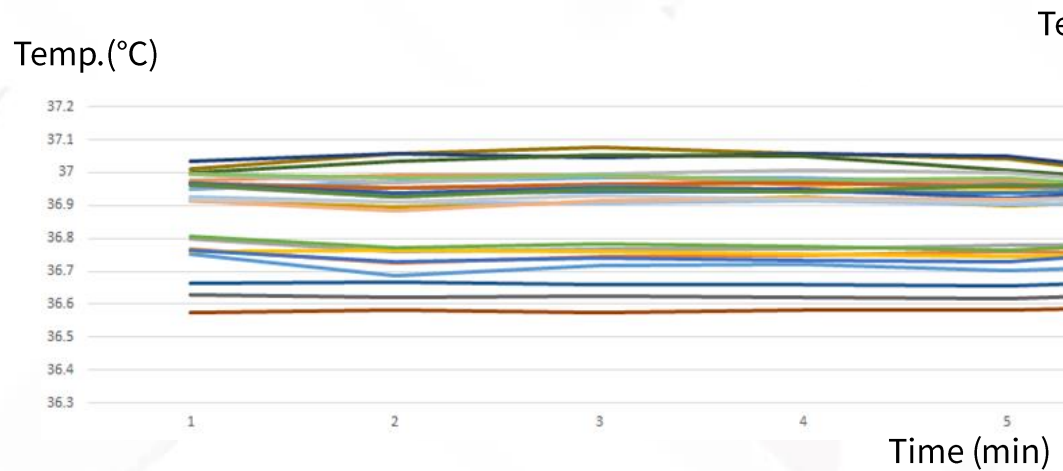


Convenient

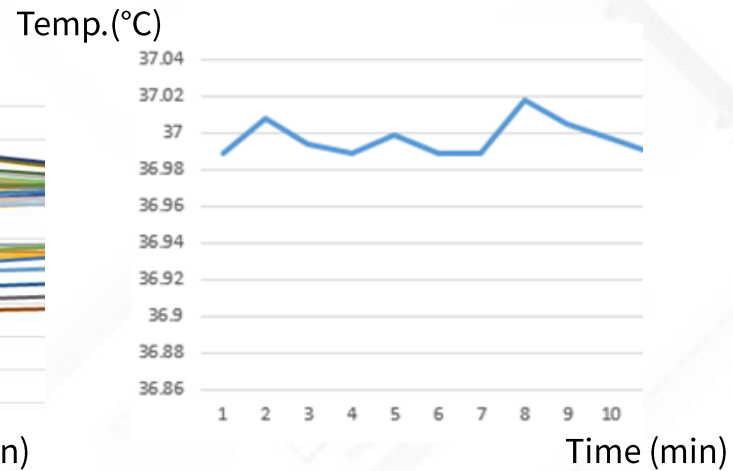
- User-friendly operation
- Optional bracket with casters



Temperature sensor with PID controller provide Stable temperature and over temperature protection by preventing overshoot during recovery; temperatures recover under 6 minutes.



Temperature Uniformity $\pm 0.25^{\circ}\text{C}$

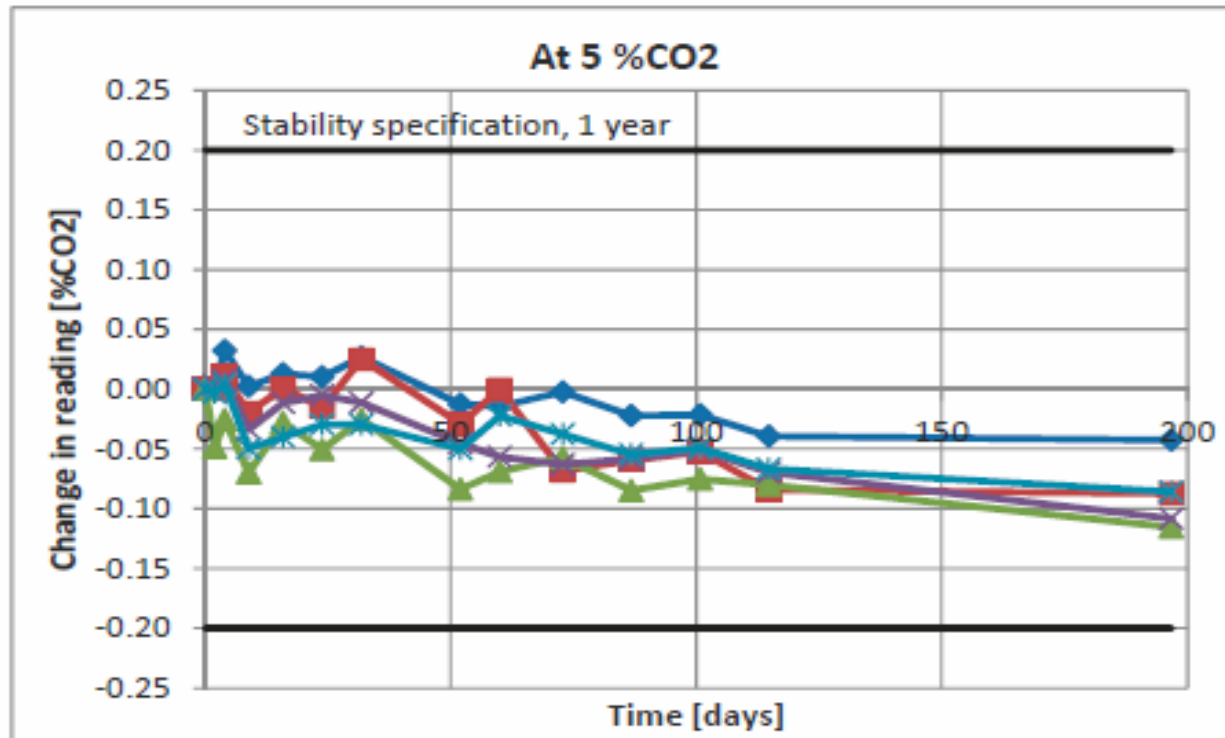


Control Accuracy $\pm 0.1^{\circ}\text{C}$

Air-Jacketed

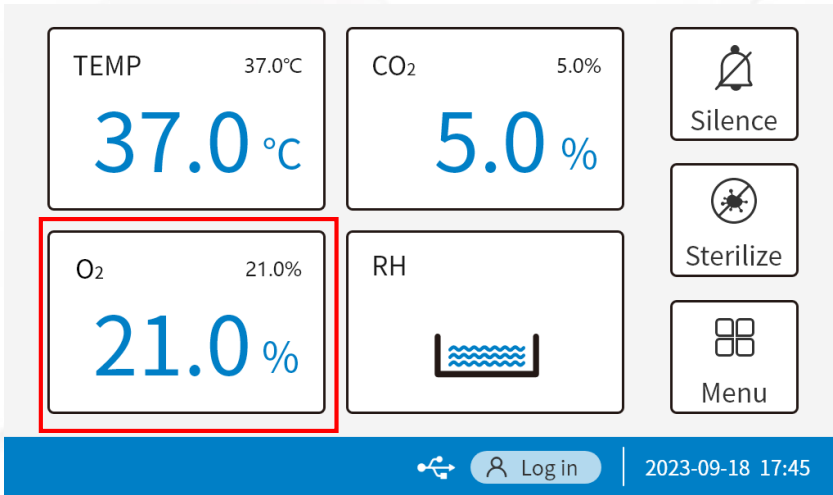
- Directly heat by the heater
- Temperature stability can be quickly recovered in the case of frequent opening and closing of the door

Choice of accurate and reliable CO₂ sensor technology



High-temperature resistant IR sensor

- The accuracy deviation of the IR sensor is within the range of -0.15%-0.05% after 200 days of use, **that improves stability and reliable service life.**
- IR sensor **not affected by changes** in temperature, humidity, oxygen, or barometric pressure.
- Highly responsive with recovery **under 6 minutes** from door openings.



1 Oxygen control (Optional)

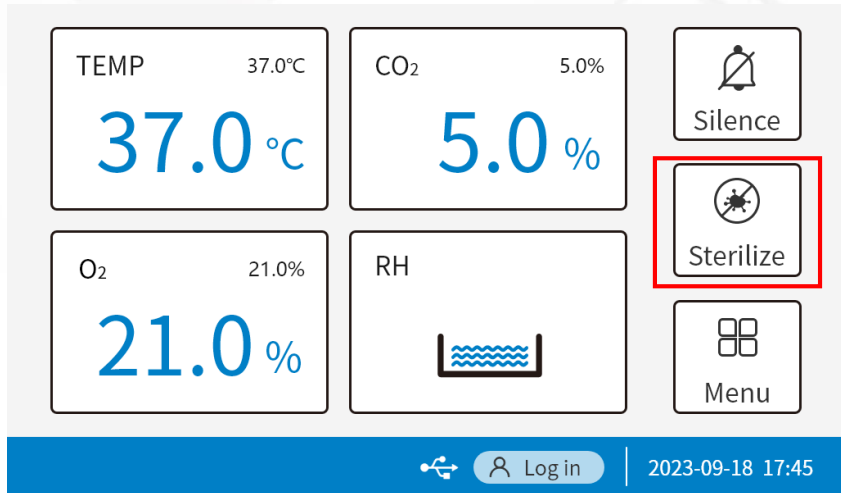
- The oxygen **control range is 1-21% O₂**.
- Added culturing flexibility with variable oxygen control.

2 3 segmented inner doors (Optional)

- With segmented inner doors, accessing separate sections of the incubator is convenient, **minimizing recovery time and contamination risk.**

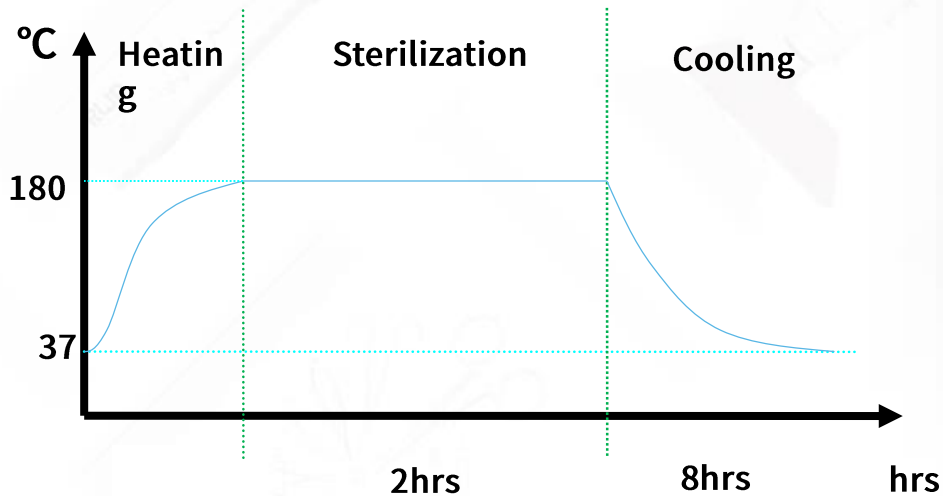


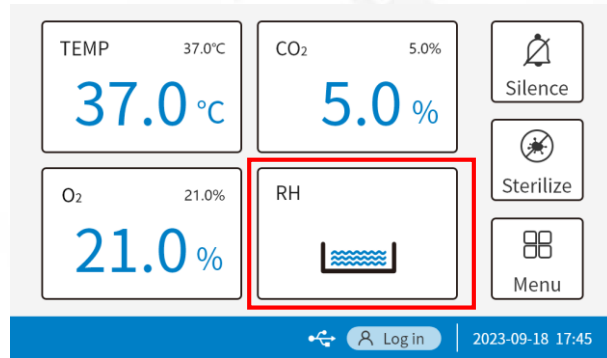
High-temperature sterilization with push button simplicity



180°C High-temperature sterilization

- Fully automatic 180°C cycle assures total, uniform sterilization of all chamber surfaces (12 log SAL).
- 180°C High-temperature sterilization method **assures elimination of biological contaminants** (including fungal mold, vegetative and spore forms of bacteria, including mycoplasma) .





1 3 liter water reservoir

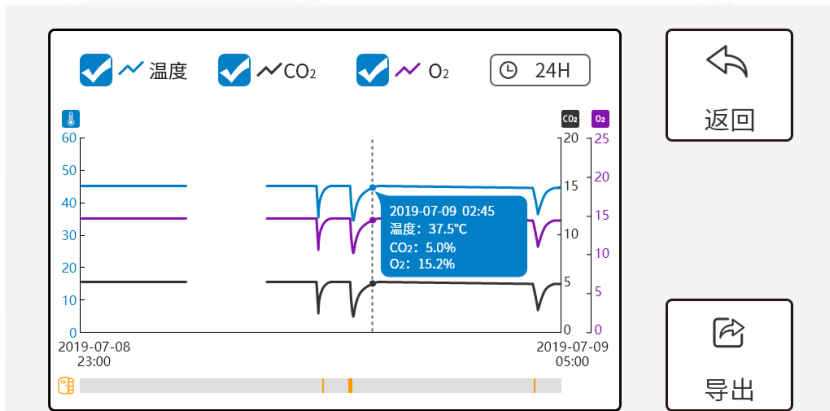
- Directly heated reservoir boosts **5X faster recovery** than removable pan designs.
- **Water level is continuously monitored** and displayed on the touchscreen .
- Low humidity mode can be selected to **prevent condensation**.

2 Quick plug drainage outlet

- For easier water handling, humidity reservoir may be filled or drained without the removal of shelves or cultures.



User-friendly operation



➤ Within 1 month parameters curve display (Temp. CO₂ and O₂ concentration) provides real time monitoring.

历史数据 | 2019-10-01 17:45

序号	账号	时间	操作事件
992	/	2023/01/18 14:35	打开外门
993	BBBBBB	2023/01/18 14:34	温度: 39.0°C→37°C
994	AAAAAAA	2023/01/18 14:33	HEPA滤网更换
995	AAAAAAA	2023/01/18 14:32	CO2: 0.0%→2.5%
996	/	2023/01/18 14:31	取消高温灭菌
997	AAAAAAA	2023/01/18 14:30	开始高温灭菌
998	CCCCC...	2023/01/18 14:29	登录
999	/	2023/01/18 14:28	开机

全部 筛选 删除所有 < 002/109 >



➤ Operation or alarm records ensure the safety of samples and incubator.

电子记录 | 2019-10-01 17:45

序号	报警事件	报警时间	消警时间
1	外门开门时间过长	2023/01/18 14:35	2023/01/18 14:35
2	温度过高	2023/01/18 14:34	/
3	水位过低	2023/01/18 14:33	2023/01/18 14:33
4	001 电压异常	2023/01/18 14:32	2023/01/18 14:32
5	002传感器未连接	2023/01/18 14:31	2023/01/18 14:31
6	012温度传感器异常	2023/01/18 14:30	2023/01/18 14:30
7	022温度传感器异常	2023/01/18 14:29	2023/01/18 14:29
8	032温度传感器异常	2023/01/18 14:28	2023/01/18 14:28

筛选 < 002/109 >



报警记录 | 2019-10-01 17:45

用户级别: 管理员 普通用户

用户账号:

初始密码:

有效期:

序号	账号	级别	有效期至
1	AAAAAAA	管理员	2023/04/06
2	AAAAAAA	管理员	已过期
3	AAAAAAA...	管理员	2024/04/06
4	AAAAAAA	管理员	2024/04/06
5	AAAAAAA	普通用户	已停用
6	AAAAAAA	普通用户	2023/04/06
7	AAAAAAA	普通用户	2023/04/06
8	AAAAAAA	普通用户	已停用

➤ Login with Account and password

➤ User and permission management

类型: 电子记录 仪器序列号: RWD00001 时间: 2022/12/10-2022/12/12

序号	用户账号	时间	操作事件
1	AAAABBBBB	2021/12/22 12:12:32	打开外门
2	AAAABBBBB	2021/12/22 12:12:32	温度: 39.0°C→37.0°C
3	AAAABBBBB	2021/12/22 12:12:32	HEPA滤网更换
4	AAAABBBBB	2021/12/22 12:12:32	CO2: 0.0%→2.5%
5	/	2021/12/22 12:12:32	CO2下限: 0.0%→1.0%
6	AAAABBBBB	2021/12/22 12:12:32	CO2上限: 0.0%→3.0%
7	/	2021/12/22 12:12:32	取消高温灭菌
8	/	2021/12/22 12:12:32	开始高温灭菌
9	AAAABBBBB	2021/12/22 12:12:32	登录
10	/	2021/12/22 12:12:32	开机

➤ Electronic records are generated in real-time and cannot be deleted and modified

Remote monitoring through APP



- Remote real-time monitoring of the parameter status of the incubator through the APP.
- Timely send alarm information notifications to user APP.

Temperature	Control & Range	$\pm 0.1^{\circ}\text{C}$ @ 37°C, 3°C above ambient to 55°C
	Uniformity	$\pm 0.3^{\circ}\text{C}$ @ 37°C
	Readability & Setability	0.1°C
	Sterilization Method	180°C dry heat sterilization
CO₂ Concentration	Control & Range	$\pm 0.1\%$ @5%, 0-20%
	Sensor	Heat-resistant infrared (IR) sensor
	Inlet pressure	0.8-1.0 bar
	Readability & Setability	0.10%
O₂ Concentration	Control & Range	$\pm 1\%$, 1-20%
	Sensor	Zirconia
	Inlet pressure	0.8-1.0 bar
Humidity	RH	90%-95%
	Humidity reservoir	max. 3L
Size & Weight	Interior Volume	165 L
	Interior Dimensions	47.0(W)×60.6(D)×58.0(H) cm
	Exterior Dimensions	87.0(W)×69.0(D)×92.0(H) cm
	Net Weight	120 kg

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THANKS

THANKS FOR HAVING YOU ALL THE WAY

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