

C02 Incubator



HF90/HF240/HF151UV

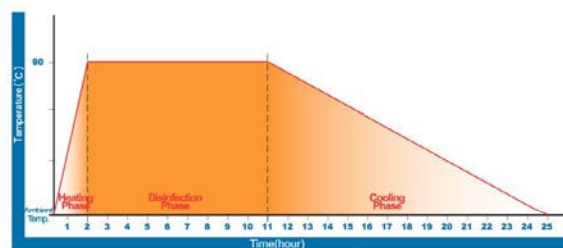


Features

- Air-jacketed and direct heat
- 90°C moist heat (HF90 & HF240) or ultraviolet (HF151UV & HF212UV) disinfection
- Efficient humidity system
- Programmable CO₂ sensor "AUTO-START"
- Separate over-temperature cutout
- Built-in system diagnostics
- Advanced chamber circulation
- Alarm system
- Coved corners & quick clean shelves
- 2 independent Pt1000 temperature sensors

90°C moist heat disinfection (HF90 & HF240)

HF90 and HF240 are equipped with 90°C moist heat disinfection system. All accessories and parts inside the chamber such as CO₂ sensors, fans and shelves are disinfected effectively. Mycoplasma is 100% eliminated in a routine disinfection circle.



90°C moist heat disinfection pattern

Ultraviolet disinfection (HF151UV & HF212UV)

A long-life ultraviolet lamp is equipped at the inner back of the chamber of HF151UV and HF212UV to eliminate contaminant. To take maximum effect of disinfection, the wavelength of UV light is maintained at 254nm.



Coved corners

Easy-to-clean structure design

All parts and structure inside the chamber are designed for cleaning convenience. All the interior corners are coved without dead corners. The shelves are removable to clean without tools.

Inlet filter for CO₂ supply

CO₂ gas passes through a HEPA filter before entering the chamber. The HEPA filter is able to filter particles larger than 0.3µm at 99.998%.

/HF212UV Air-jacketed CO₂ Incubator

AUTO-START

The thermal conductivity CO₂ sensor has its baseline automatically reset without manual adjustment. The function ensures a stable and accurate working system.

Heating system

A unique direct heating system combined with a PT1000 temperature sensor ensures stable temperature control with little gradient and prompt temperature recovery without overheat. Direct airflow ensures optimum temperature uniformity and insulating fiberglass reduce both the temperature fluctuation caused by door open and time to recovery after closed.

Humidity system

An innovative design of water reservoir is applied in Heal Force air-jacketed CO₂ incubators. Comparing with the ordinary water tray, the reservoir enlarges volume and expands surface area, which leads to remarkable efficiency in humidity maintenance and recovery, and reduces recovery time dramatically.

Relatively independent space

Besides the main door, 3 inner glass doors (HF90 only) are equipped in the chambers, and make the chamber into relatively independent space together with the shelves. The design helps preventing other space in the chamber from fluctuation of environment parameters and introduction of contaminants in maximum extent in case a inner door is open. A structure of 6 half-size inner glass doors and shelves is optional for model HF240.



Control panel



Water reservoir



HF90 with 3 inner glass doors(standard)



HF240 with 6 half-size inner glass doors and shelves(optional)



HF90



HF240



HF212UV



HF151UV

Specifications

| Model | HF90 | HF240 | HF151UV | HF 212UV |
|--|--|--|--------------------------------------|--------------------------------------|
| Interior volume | 151 litres | 240 litres | 151 litres | 212 litres |
| Outer dimensions (D*W*H) | 762mm*637mm*909mm | 820mm*780mm*944mm | 768mm*615mm*865mm | 763mm*910mm*795mm |
| Interior dimensions (D*W*H) | 530mm*470mm*607mm | 583mm*607mm*670mm | 530mm*470mm*607mm | 588mm*600mm*600mm |
| Shelf dimensions (D*W) | 445mm*423mm | 503mm*554mm | 445mm*423mm | 510mm*590mm |
| Standard quantity of shelves | 3 | 3 | 3 | 3 |
| Maximum quantity of shelves | 10 | 12 | 10 | 12 |
| Temperature setting range | Ambient +5~50°C | Ambient +5~50°C | Ambient +5~50°C | Ambient +5~50°C |
| Temperature setting deviation | ±0.1°C | ±0.1°C | ±0.1°C | ±0.1°C |
| Temperature sensor | PT1000 | PT1000 | PT1000 | PT1000 |
| Heating system | Air-jacketed, direct heating | | | |
| CO ₂ concentration setting range | 0~20% | 0~20% | 0~20% | 0~20% |
| CO ₂ concentration setting deviation | ±0.1% | ±0.1% | ±0.1% | ±0.1% |
| Recovery time of CO ₂ concentration to 5% @37°C | Less than 3 minutes | Less than 3 minutes | Less than 3 minutes | Less than 3 minutes |
| CO ₂ concentration sensor | TCD (thermal conductivity detector) | | | |
| Humidity | ≥95% | ≥95% | ≥95% | ≥95% |
| Water reservoir volume | 3 litres | 3 litres | 4 litres | 6 litres |
| Interior structure | 3 standard shelves with 3 inner glass doors | 3 standard shelves with a glass door 6 half-size shelves with 6 mini glass doors* | 3 standard shelves with a glass door | 3 standard shelves with a glass door |
| Disinfection & time | Moist heat 9 hours @90°C (disinfection duration: about 25 hours) | | | |
| Net weight | 80kg | 98kg | 75kg | 95kg |
| Rated power | 600w | 735w | 600w | 700w |
| Power supply | 220V±10% / 50Hz (standard) 110V / 60Hz (optional) | | | |

*optional for model HF240

HF 160W

Water-Jacketed CO₂ Incubator

Water-jacketed

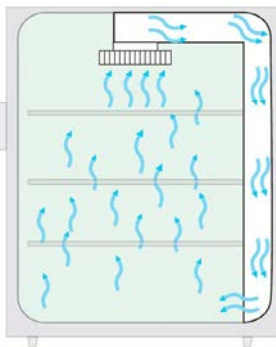
Applying the water-jacketed system, the temperature is more stable and insusceptible in accidents like power supply cut off.

HEPA filter

HF160W applies HEPA filter for disinfection. The filter is very efficient to prevent particulates larger than 0.3µm at 99.97%. The filter system filter runs continuously and within every 60 seconds, the volume of entire chamber is disinfected. With help of HEPA filter, the air quality reaches Class 100.



HEPA filter



HEPA filter and air flow pattern

Airflow system

HF160W is equipped with a patented airflow system, which ensures the temperature and CO₂ concentration to be stable and uniform all over the chamber.

Triple temperature controls

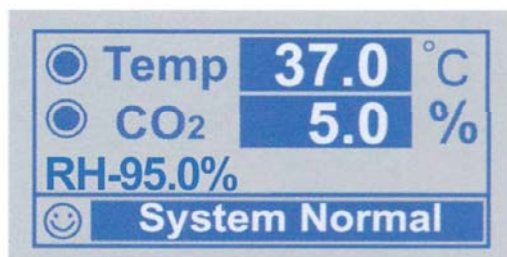
Three temperature control systems are applied in the incubator. The independent systems are for main chamber control, overheat protection and surrounding temperature inspection respectively.

AUTO-ZERO/AUTO-START

The infrared type is equipped with Auto-zero, which runs automatically to recover the indicator to 'Zero' every 24 hours. Auto-start function for TCD type ensures CO₂ concentration sensor's baseline automatically reset without manual adjustment. Both functions ensure a stable and accurate working system.

Outer door heated according to surrounding temperature

The surrounding temperature control system continuously monitors the temperature and is able to control the power supply of outer door heating to avoid overheat and keep the temperature inside the chamber stable.



LCD display

Humidity display and alarming system

HF160W is able to create a high humidity environment and the relative humidity (RH) is displayed on the panel. The indicator alarms in case of following conditions: RH level below threshold, overheated, low water level in reservoir and HEPA filter expired.

CO₂ cylinder auto changer (optional)

When CO₂ pressure drops to a minimal level, the system automatically switches to an alternative cylinder and ensures continuous CO₂ supply.



CO₂ cylinder auto changer(optional)



HF160W

Specifications

| Model | HF 160W |
|--|--------------------------------------|
| Interior volume | 185 litres |
| Outer dimensions (D*W*H) | 656mm×655mm×1030mm |
| Interior dimensions (D*W*H) | 504mm×544mm×681mm |
| Shelf dimensions (D*W) | 440mm×466mm |
| Standard quantity of shelves | 3 |
| Maximum quantity of shelves | 11 |
| Temperature setting range | Ambient +5~55°C |
| Temperature setting deviation | ±0.1°C |
| Temperature sensor | PT1000 |
| Heating system | Water-jacketed |
| Water jacket volume | 43.5 litres |
| CO ₂ concentration setting range | 0~20% |
| CO ₂ concentration setting deviation | ±0.1% |
| Recovery time of CO ₂ concentration to 5% @37°C | Less than 3 minutes |
| CO ₂ concentration sensor | Infrared or TCD (optional) |
| Humidity | ≥95% |
| Water reservoir volume | 3 litres |
| Interior structure | 3 standard shelves with a glass door |
| Disinfection | HEPA filter |
| Net weight | 110kg |
| Rated power | 430w |
| Power supply | 220V±10% / 50Hz (standard) |
| | 110V / 60Hz (optional) |