

## anaerobic and hypoxic workstation with two hepa filters

The anaerobic and hypoxic workstations can simultaneously meet the needs of anaerobic bacteria, microaerobic bacteria, and cell culture through the independent control system of the dual chambers, and are widely used in scientific research and laboratory work in the fields of microbiology and cell biology.

### Anaerobic and Hypoxic Workstation

This workstation is designed for high-precision environmental control, capable of simulating complex experimental conditions such as hypoxia, high/low oxygen fluctuations, and intermittent hypoxia. Its dual compartment design allows independent control of each chamber, ensuring reliable and flexible cultivation for a wide range of research needs.



### Features

1. **Dual compartment, independent control:** Each chamber can be set with different environmental parameters (oxygen, CO<sub>2</sub>), preventing cross-contamination and meeting diverse cultivation requirements.
2. **Oxygen concentration control:** Precise regulation to simulate various low-oxygen environments for microorganisms and cells.

3. **Carbon dioxide concentration control:** Accurate CO<sub>2</sub> sensor enables regulation for optimal cell growth environments.
4. **Automatic humidity control:** Real-time monitoring and adjustment of humidity to maintain stable culture conditions.
5. **Long sleeve operating system:** Built-in sleeve system facilitates safe operations without disturbing the internal environment.
6. **Flexible timed air intake:** Programmable air intake timing and frequency to suit different experimental needs.

### Advantages

1. **Precise environmental control:** Stable gas concentration control for anaerobic or hypoxic conditions, minimizing external interference.
2. **Efficient gas mixing:** Multi-way mixer and gradient circulation ensure uniform gas distribution and consistent experimental conditions.
3. **Convenient operation and monitoring:** Simple interface with real-time sensor monitoring of oxygen and CO<sub>2</sub> in each chamber.
4. **Flexible applications:** Supports bacteria, cell culture, hypoxia simulation, and more.
5. **Efficient humidity management:** Ultrasonic humidification system for rapid and stable humidity regulation.

## **Working Principle**

The dual chamber system uses oxygen and CO<sub>2</sub> sensors in each compartment for accurate measurement and regulation. Gas mixers and sensors work together to maintain set concentrations. Automatic humidity control adjusts levels in real-time, and ultrasonic humidification quickly stabilizes the environment. Operators set parameters via the device interface, with real-time feedback and control panel monitoring for easy adjustment.

## **Application Fields**

1. Microbial culture: Anaerobic and microaerobic bacteria cultivation, fermentation research, antibiotic production.
2. Cell culture: Low oxygen/hypoxic experiments for tumor, stem cell, and other biological research.
3. Drug screening & development: Simulate oxygen environments for drug response and anti-cancer drug screening.
4. Biomedical research: Controlled environments for cell growth, drug testing, and genetic studies.
5. Environmental monitoring: Simulate low oxygen/anaerobic conditions for pollutant treatment, soil and water sample analysis.
6. Food & agriculture: Study low oxygen effects on microbial activity in storage, fermentation, and agricultural products.

## Main Configuration

- Main machine: 1 set
- Fully sealed sleeve inlet/outlet: 4 sets
- HEPA U16 filter: 2 sets
- Oxygen sensor: 2 sets
- CO<sub>2</sub> sensor: 2 sets
- Multi-way gas mixer: 2 sets
- Gradient circulation control system: 2 sets
- Ultrasonic humidification system: 2 sets
- Petri dish rack: 16 pcs
- Fluorescent lamp: 2 pcs
- Ultraviolet lamp: 2 pcs
- Catalyst: 4 boxes (200g/box)
- Regulator: 4 boxes (200g/box)

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- Lubricating powder: 1 bottle
- Internal power socket: 4 pcs
- Power cord: 1 pc
- Operation manual: 1 set
- Installation & commissioning accessories: 1 set