anaerobic and microaerobic workstation for microorganisms

anaerobic and microaerobic workstation meets the growth requirements of microorganisms with low oxygen demand or anaerobic microorganisms by regulating and maintaining the oxygen concentration in the chamber at a very low or even near-zero state.

Anaerobic & Microaerobic Workstation Overview

Anaerobic and microaerobic workstation is widely used in microorganism inoculation, continuous culture, transgeneration, medium conversion and morphological observation and identification. It is an important experimental aid in microbiology, medical testing, and bioengineering.

Main Features

1. Precise oxygen concentration monitoring: digital oxygen meter provides real-time feedback, ensuring stable chamber environment.
2. Multiple sealing system: rigid cuff and long sleeve double protection, combined with high-quality O-ring for airtightness and air leak prevention.

3. Multi-functional lighting: equipped with fluorescent and UV lamps for lighting and sterilization needs during microbial culture.
4. Catalyst and detoxification: built-in high-efficiency catalyst promotes oxygen reduction, with detoxification for environmental purification.
5. Comfortable operation: long sleeve design ensures flexible operation and avoids direct contact with the anaerobic environment.
6. Integrated power interface: chamber equipped with power socket, convenient for connecting small experimental instruments.

Working Conditions

- Power: 220V, 50/60Hz, 2.5A
- Environment: Ambient temperature 25°C, humidity <90%

Advantages

1. Superior environmental stability: airtightness and catalyst ensure long-term stable anaerobic or micro-oxygen environment, preventing air penetration.
2. Easy and safe operation: digital oxygen monitoring and long sleeve protection reduce risk and protect personnel safety.

3. Multi-functional configuration: built-in lighting and power interface for diverse experimental needs and improved efficiency.
4. Convenient maintenance: standardized accessories, catalyst and detoxifier are easy to replace, daily maintenance is simple.

Working Principle

1. Initial atmosphere replacement: closed chamber expels or replaces air, reducing oxygen concentration.
2. Catalytic reduction: catalyst (platinum/nickel) promotes hydrogen and residual oxygen reaction to form water, achieving anaerobic state.
3. Continuous monitoring & adjustment: digital oxygen meter monitors oxygen, operator adjusts gas input for stability.
4. Humidity & temperature adaptation: relies on external laboratory control for suitable conditions for microbial growth.

Application Fields

1. Medical microbiology: culture aerobic low or anaerobic pathogens (e.g. Shigella, Clostridium perfringens) for clinical detection.
2. Food safety: monitor anaerobic/microaerobic bacteria to ensure quality and safety.

3. Environmental microbiology: simulate low-oxygen environments to study soil/water microbial communities.
4. Bioengineering & fermentation: cultivate anaerobic fermentation strains for industrial efficiency and product quality.
5. Basic teaching & research: experimental platform for a variety of anaerobic and microaerobic strains.

Main Configuration

- 1 mainframe
- 1 pair of long cuffs
- 1 digital oximeter
- 1 pair of rigid cuffs
- 2 pairs of O-rings (for wrist cuffs)
- 1 pair of O-rings (for long cuffs)
- 1 digital oximeter
- 3 Petri dish racks
- 1 fluorescent lamp
- 1 UV lamp

- 1 bag of catalyst (300g/bag)
- 1 bag of regulator (deoxidizer) (300g/bag)
- 1 bottle of lubricating powder
- 1 internal power outlet
- 1 power cable branch
- 1 set of operation manual
- 1 set of installation and debugging accessories