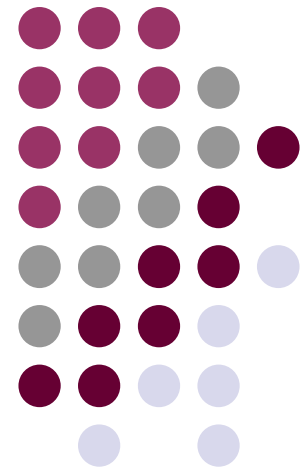


Protecting Food and Health



MICROGEN
BIOPRODUCTS

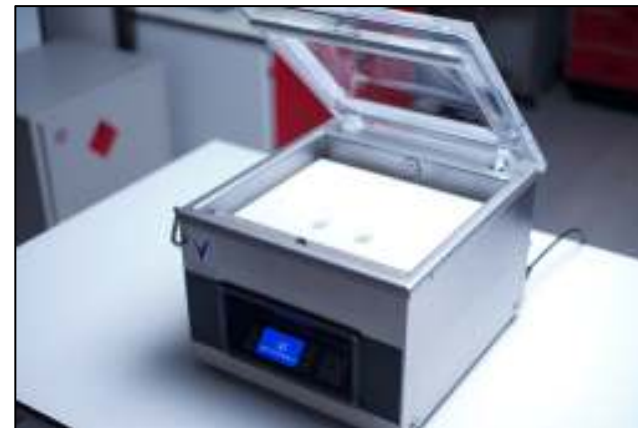




MAS

(Microgen Atmosphere System)

'Creating the perfect atmosphere'





What Is It?

- A device for preparing defined atmospheres (anaerobic, micro-aerophilic or CO₂), for the incubation and storage of bacteriological cultures.
- MAS is NOT an anaerobic cabinet, gas-jar or dedicated CO₂ incubator but an instrument which can provide a range of different atmospheric conditions quickly and efficiently.



What Does it Do?



- MAS creates an atmosphere with a defined composition in special application bags which can then be incubated or stored under normal aerobic conditions.
- Eliminates the need for:
 - Anaerobic jars and expensive gas generation kits.
 - Large, expensive anaerobic cabinets with high operating costs.
 - Dedicated CO₂ incubators



Operating Principle



- Culture media, identification systems or samples are placed into specific APPLICATION BAGS (with an O₂ catalyser for anaerobic conditions).
- Application Bags are placed in the MAS and the ambient atmosphere evacuated using vacuum and filled with an appropriate gas mixture (anaerobic, micro-aerophilic or CO₂) and automatically sealed.
- Bags are removed and transferred into a conventional aerobic incubator.



Applications



1. Bacteriological culture in anaerobic, CO₂ or micro-aerophilic atmosphere.
2. Determination of sensitivity/resistance of bacteria using disc diffusion test.
3. Determination of sensitivity/resistance of bacteria using a standard dilution micromethod (STD)
4. Incubation of identification tests in a defined atmosphere
5. Preservation of uninoculated culture media
6. Preservation of lyophilisates
7. Preservation of food samples post and prior to analysis
8. Preservation of objects after sterilisation



Specification

- The complete MAS system is composed of the following components:
 1. MAS instrument
 2. Two way reduction valve
 3. Application bags and catalyser
 4. Gas mixture(s)
 5. Reinforced connection line (6mm) with brass connector spike
- The MAS instrument and application bags plus catalyser are available from Microgen Bioproducts.
- Gas mixtures and reduction valves are not supplied by Microgen.



MAS Specification

- Outer dimensions: 380 x 420 x 350 mm
- Vacuum chamber dimensions: 340 x 325 x 60 mm
- Vacuum pump capacity: 6 m³.h-1
- Sealing bar length: 310 mm
- Power source: 110 V or 220 V
- Power consumption: 370 W
- Weight: 40 kg



Additional Materials



- Application bags:
 - Multi-layered thermoplastic bags in which agar plates, identification systems etc are sealed in the desired atmosphere.
 - Application bags for 3 different purposes: CO₂, anaerobic, micro-aerophilic atmospheres.
 - 3 sizes; small (1-2 plates), medium (2-4 plates) and large (10-12 plates).



Additional Materials cont.



- **Catalyser:**
 - The supplied catalyser is required to eliminate any residual oxygen that may be present in the medium. The catalyser must always be used with application bags for anaerobic atmosphere.
- **Two Way Reduction Valve:**
 - Concoa 312-1932-bs or local equivalent. If a mutli-cylinder installation is contemplated, each reduction valve should be protected by a check valve.



Procedure

- Connect to power and switch on at rear of unit. Screen will activate with Microgen Bioproducts logo.





Procedure

- Release side catch and allow lid to rise. This catch must not be used during operation. Press green on/off button.





Procedure

- Cursor through options by using buttons 3a and 3b to select programme. Please view user manual for button control and MAS programme details.

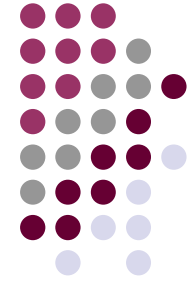




Procedure

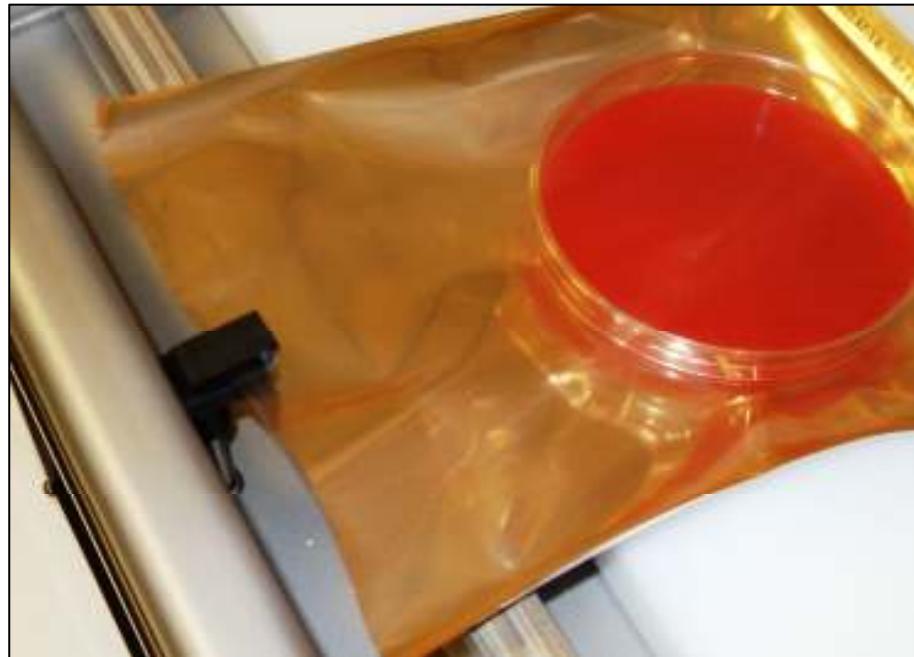
- Select the correct bag for the procedure and number of plates to be used. With the clear side of the bag uppermost, place the petri dishes in the bag with the lid up and the culture media on the non-transparent side of the application bag.





Procedure

- Clip the top of the edge of the bag to the gas inlet so that the edge of the bag is at least halfway along the clip.





Procedure

- Close the lid gently; making sure there are no creases in the bag. The pump will start.





Procedure

- The display will show the evacuation and gassing cycle.





Procedure

- When the gassing is complete, the bag will automatically be sealed. Remove the bag to a suitable incubator.





Features and Benefits



FEATURES

- Not an anaerobic cabinet, anaerobic jar or CO₂ incubator
- Small footprint
- LCD Panel

BENEFITS

- One piece of equipment with 2 gas mixtures can provide a range of different atmospheric conditions.
- Free up laboratory space, save laboratory space and provides portability.
- Easy - to – use



Features and Benefits



FEATURES

- Instantaneously achieves the desired atmosphere
- Utilises small application bags
- No heat production during catalysis of residual O_2

BENEFITS

- Improves isolation rates and colony size
- Saves on gas, utilises less space in incubator than anaerobic cabinets and gas jars
- No detrimental effect to agar plates or organisms



Features and Benefits



FEATURES

- Single Box
- Extensive Applications List
- Low gas use

BENEFITS

- Easy installation, low maintenance
- Multipurpose – one unit can be used for multiple applications.
- Only use the amount of gas required to fill the empty space in an application bag. Incubators and cabinets use a lot of gas to fill unused space.



Key Selling Points



- Economical gas consumption
- Flexibility on required atmospheres (anaerobic, CO₂ or micro-aerophilic)
- Suitability for high and low volume testing
- Small bench top footprint
- Application bags requires minimal space in incubator
- Ease-of-use and low maintenance
- Extensive application list



Competitors



- Gas Jars
- Anaerobic Workstations



Gas Jars

- Jar with a lid which is used in conjunction with a gas generating kit and an indicator to indicate anaerobiosis has been achieved.
- Inexpensive method but:
 - Quality of gas generated may be variable
 - Humidity and heat increases in jar
 - Fragile jars with finite life span
 - Occupy a lot of space in incubator
 - High cost of consumables
 - Deteriorate over time and must be replaced



Anaerobic Workstations



- Closed system for the complete manipulation of samples in anaerobic atmosphere.
- Offer exact atmosphere but:
 - High consumption of gas
 - High-cost per analysis
 - High cost of maintenance
 - Occupy a lot of space in laboratory



Positioning



- A cost-effective alternative to anaerobic work stations, CO₂ incubators and micro-aerophilic jars; one machine can replace 3 alternatives.
- Saves on laboratory bench and incubator space.
- Significant savings on gases and gas generation kits.
- Demonstrated to improve recovery rates and improve colony size, development and morphology.