The Advanced® Anoxomat™ System

For the cultivation of anaerobic, microaerophilic, and capnophilic bacteria

www.aicompanies.com
The Advanced® Anoxomat™ can create exact, repeatable conditions with gas mixtures that will always be within 0.5% of the required value. Conventional technology like gas chambers and gas bags can be resource-intensive, error-prone, and cumbersome to handle. But Anoxomat quickly creates anaerobic, microaerophilic, or capnophilic and hypoxic environments in jars using a reliable automated evacuation/replacement method.
Superior Recovery
Due to the speed in which Anoxomat achieves the required conditions, recovery of micro-organisms cultivated in jars and processed by the Anoxomat system is superior to all other methods. Anoxomat provides excellent recovery of clinical bacteria such as *Helicobacter spp.*, *Bacteroides spp.*, and other strict anaerobes. The Anoxomat can also be a valuable tool in food and alcohol production, guaranteeing growth of *Clostridium spp.*, *Campylobacter spp.*, *Megasphaera spp.*, and *Pectinatus spp.*


**The Anoxomat incorporates unique features that improve laboratory productivity**

- **ADVANCED ANOXOMAT FEATURES AND BENEFITS**
  - **Rapid** – Complete anaerobiosis in less than 3 minutes for unmatched organism quality and recovery
  - **Cost efficient** – Anoxomat low gas consumption, maintenance, and minimal operating consumables ensure its return on investment over chambers and gasbags
  - **Quality Assurance Program (QAP)** – performs leak tests and gas input test, plus confirms catalyst activity BEFORE incubation
  - **Data record** – Optional User Traceability Program to document user ID, gas mixtures, and patient information
  - **Automatic, one-button operation** – Process jars while you continue to work and increase your laboratory’s efficiency
  - **Superior environments** – Other methods are marred by disadvantages such as late discovery of faulty jars and gas packs, slow anaerobiosis, and chemical waste
  - **Compact design** – Large footprint chambers take up valuable lab space. Anoxomat is no bigger than a small microwave oven

**Cost Effective**
- No costly preventive maintenance plans are necessary
- **Low gas costs** – a 50 L gas cylinder contains enough gas to fill over 1,500 anaerobic jars or 5,100 microaerophilic jars.
- **Higher processing efficiency** – The Advanced Anoxomat can process two or even three jars simultaneously

The figures may vary from country to country.
The Anoxomat Barcode Scanner

Making tracking and traceability effortless when incorporated with our data interface and registration input software

FEATURES

- **Multifunctional programming** – Create anaerobic, microaerophilic, and capnophilic environments all with one instrument
- **Custom recipes** – Utilize the optional Recipe Generating Program to mix any type of gas to create custom environment
- **Barcode Scanner compatible** – Facilitate patient information input and make tracking and traceability much simpler

APPLICATIONS

- **Clinical** – Cultivation of anerobes and microaerophiles from patient samples
- **Food** – Creates a perfect environment for food spoilage and pathogenic bacteria
- **Brewery** – Successful cultivation of beer spoilage bacteria for superior quality control
- **Research** – The Anoxomat is a perfect tool for the study and cultivation of all anaerobic, microaerophilic, and capnophilic bacteria

The Evacuation Replacement Method of MacIntosh & Fildes

The massive space-occupying chambers (anaerobic cabinets of CO₂ incubators) with fixed environments consume huge quantities of gas (requiring correspondingly large gas cylinders to keep them running). Servicing is costly and inconvenient. Added to this, they are incapable of cultivating microaerophilic and anaerobic organisms at the same time, thus denying laboratories vital flexibility. The Anoxomat has been designed to eliminate these disadvantages. The Anoxomat offers an alternative to these methods, using the evacuation and replacement method of MacIntosh & Fildes, to create regular or user-defined atmospheres in an anaerobic jar.

The Anoxomat’s evacuation-replacement methodology rapidly removes the oxygenated environment from a jar and replaces it with a precise amount of anaerobic gas mixture. After the anaerobic cycle, a mere 0.16% residual oxygen content is left in the jar, which is then removed from the environment by a small palladium catalyst. This method is the most efficient way to create anaerobic, microaerophilic, and capnophilic conditions.
Anoxomat Software Features

• Quality Assurance Control — The Anoxomat software runs a quality assurance program automatically before incubation. A warning is issued if any sign of jar leakage is detected, thus eliminating guesswork and ensuring precise microbial growth during incubation.

• Sample Traceability — The Anoxomat facilitates compliance with accreditation standards, by allowing laboratories control over sample processing history.

• Registration Input Screen — Anoxomat operating system allows a variety of access control by allowing the registration of multiple users and laboratories. The user would then be allowed to input laboratory, department, operator, sample, and jar identification manually or using a barcode scanner. All information recorded will be saved in a Microsoft® Excel® format or printed and attached to the jar for further identification during incubation.

• Data Interface — The Anoxomat operates via an embedded computer with Ethernet and multiple USB ports to allow data transfer. The data processed by the Anoxomat can be transferred to a database in a CSV format, which can be imported to the Laboratory Information Management System (LIMS).
Advanced® Anoxomat™ Mark II System

**Electrical**
- Type: 220 V 110 V
- Voltage: 220-240 V 110-120 V
- Frequency: 50 - 60 Hz 50 - 60 Hz
- Fuses: 1 & 2 6.3 A slow 6.3 A slow
- Vacuum Pump: Bush SV1003 Bush SV1003
- Peak Current: 1.1 Amp 4.3 Amp

**Housing**
- Bottom: Steel, powder coated
- Top: ABS B300 IR, black, sandstone, mat; ABS B300 IR, white, smooth, mat

- Net Weight: 33.1 lb (Ca. 15 Kg)

**Dimensions**
- Width: 12.1 in (32 cm)
- Depth: 21.1 in (55 cm)
- Minimum height: 3.1 in (8 cm) (front)
- Maximum height: 10.1 in (27.5 cm) (back)

- Operating temperature: 50° - 91°F (10°-32 °C)
- Relative Humidity: 20 - 80 %
- Ultimate pressure: 150 mbar vacuum pump:

*Specifications subject to change*

**Anaerobic Jars**
- AJ9022 Holds one stack of 6 Petri dishes, 9-10 cm dia.
- AJ9023 Holds one stack of 12 Petri dishes, 9-10 cm dia.
- AJ9025 Holds one stack of 12 Petri dishes, 9-10 cm dia.
- AJ9028 Holds three stacks of 12 Petri dishes, 9 cm dia.
- AJ2x6 Holds two stacks of 6 Petri dishes, twelve 9-10 cm dia.
- AJ2x12 Holds two stacks of 12 Petri dishes, twenty-four 9-10 cm dia.

**Accessories**
- AN2JC Additional jar connection.
- AN2GC Additional gas connection.
- AN2PPR Pre-Programmed recipes.
- AN2UPF User programming function.
- AN2TP1 Recipe printer. Thermal paper or medical grade paper
- AN2TP3 Dot Matrix printer for plain paper
- AN2ISC1 Registration input screen
- AN2BCS Barcode scanner.
- AN2DI Data interface.
- AN2TT Track & trace package

**Catalyst**
- CA0000 For use with AJ9022, AJ9023. Quantity needed: 1
- CA0002 For use with AJ2x6, Quantity needed: 1

**Parts and Supplies**

**Petri Dish Holders**
- PH 1060 Holds 6 Petri dishes, 9-10 cm dia.
- PH 1040 Holds 12 Petri dishes, 9-10 cm dia.
- PH 1080 Holds three stacks of 12 Petri dishes, 6 cm dia.
- PH 1090 Holds one stack of microtiter plates, 13 x 9 cm dia.
- PH 1070 Holds 10 Petri dishes, 14.5 cm dia.
- PH 1050 Holds three stacks of 12 Petri dishes, 10 cm dia.

**Catalyst**
- CA0000 For use with AJ9022, AJ9023. Quantity needed: 1
- CA0002 For use with AJ2x6, Quantity needed: 1

**About Advanced Instruments**
Advanced Instruments, Inc., and our subsidiaries, Delta Instruments and Mart Microbiology, design and manufacture instrumentation for clinical, pharmaceutical, biotechnology, microbiology, and food laboratories. The products we make help healthcare providers improve the quality of care, and industrial companies enhance quality and productivity.
Oxygen-sensitive organisms are routinely cultivated in anaerobic jars. Unfortunately, many brands on the market are poorly constructed and are not air tight. These defects regularly result in no-growth plates due to oxygen leaking into the jar.

Laboratory managers depend on their equipment for quality results. Advanced Instruments, Inc. has developed a system that reliably sustains environments for proper growth, and completely eliminates air leakage. No other methodology produces the quality managers’ expect as well as the Anoxomat system.

The Advanced® Anoxomat Anaerobic Jars are manufactured to meet these high standards and have been proven over the years to be of superior quality.

**Features**
- Constructed of strong molded polycarbonate material
- Snap-shut coupling for easy connection to gas supply
- Flat lid, recessed coupling, and molded bottom allow for stacked storage or incubation
- Uniquely developed lid closing system with click-type clamps on both sides

**Benefits**
- Nested stacking creates a smaller footprint and allows for more jars in a limited space
- Lightweight jars and sturdy handle assure safe transportation when fully loaded
- Fold-down grip handle equals easy-to-carry comfort
- Available in two sizes: Advanced jars accommodate either up to twelve or twenty-four 9-10 cm plates

**The Advanced Ergonomic Jar**
Advanced offers two types of anaerobic jars, the Standard, and the Ergonomic Jar. The Ergonomic Jar is available in two holding sizes, 12-plate (P/N AJ2x6) or 24-plate (P/N AJ2x12). The Ergonomic Jar’s uniquely developed lid uses a clamp-on system that creates a secure seal with a simple click, and has a recessed, snap-shut coupling for easy connection to a gas supply.

Constructed of strong molded polycarbonate, the Ergonomic Jar has a flat top, with a fold-away handle, that allows the operator to securely stack jars inside the incubator.

Advanced Ergonomic Jars give microbiologists added flexibility and provide an economical footprint in space-conscious laboratories.
Anoxomat Accessories and Supplies

ABOUT ADVANCED INSTRUMENTS
Advanced Instruments, Inc., and our subsidiaries, Delta Instruments and Mart Microbiology, design and manufacture instrumentation for clinical, pharmaceutical, biotechnology, microbiology, and food laboratories. The products we make help healthcare providers improve the quality of care, and industrial companies enhance quality and productivity.

Advanced Standard Anaerobic Jar
The Advanced Anoxomat Standard Anaerobic Jar is composed from resilient acrylic material, and incorporates a snap-shut gas supply coupling with an error-proof lid clamp that ensures a secure seal.

Standard Jars are available in a variety of sizes. The Standard Jar can hold a maximum of 6 to 48 Petri dishes.

A wide range of autoclavable Petri dish holders are available for use with this jar.

Thermal Printer for Sample Traceability
The Anoxomat software can be upgraded with the sample traceability program. With this feature, data can be downloaded into a database or printed on thermal paper. The printout can be clipped to the jar for identification before and after incubation.

Palladium Catalyst
After the anaerobic cycle is complete, a mere 0.16% oxygen concentration remains in the jar. A small catalyst is needed to facilitate the removal of the last trace amounts of oxygen to achieve complete anaerobiosis. The catalyst is palladium-coated aluminum pellets in a stainless steel sachet. The catalyst can be used numerous times by reactivation in a hot-air oven.

Halamid Jar Cleaner and Disinfectant
Halamid cleaner is a chlorine-based and alcohol-free disinfectant safe to use in food and healthcare settings. Halamid should only be used with Advanced Anaerobic Jars to ensure no residual alcohol is left behind and that the cleaner being used doesn’t degrade the jar or lid.

- Effective against bacteria, fungi, and viruses
- Releases exactly the right amount of chlorine needed: Halamid retains its active properties even after long periods of time
- Excellent storage stability
- Not aggressive against metals, rubber, and plastic
- Easy to rinse and dissolves easily in cold water

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