

TMC 001A - POLYCARBONATE JAR (WITH PRESSURE GAUGE)

INTENDED USE

Anaerobic system consists of plastic container (used to place agar plates).

PRINCIPLE

Polycarbonate jar is a multiple-use, self-contained system that produce atmospheres suitable to support the primary isolation and cultivation of anaerobic or microaerophilic bacteria by use of gas-generating envelopes or, alternatively, externally introduced gases.

Polycarbonate jar works on the principle of evacuation and replacement, where the air inside the chamber is evacuated and replaced with mixture of gases (consisting of CO₂, H₂ and N₂). Polycarbonate Jar consists of jar of stout glass with a tight fitting metal lid. The lid can be clamped airtight with a screw and is fitted with two tubes with taps, one for **introduction of gas inside (inlet)** and the other as **outlet** for vacuum valve.

INSTRUCTIONS FOR USE

1. Place the petri dishes in the carrier which should be of the vented variety to aid gas transfer between the interior and exterior of the plates.
2. Insert Anaerobic Indicator Tablet into the smaller (upper) clip in the plate carrier
3. Put the loaded carrier into the polycarbonate jar
4. Place the lid fitted with accessories in the jar after making sure that the silicon 'O'- ring is correctly placed on the jar. Apply the three finger clamp and screw down until tight.
5. A metal accessory named as vacuum chuck have to be used for the Evacuation/ Replacement technique to enable first vacuum to be down.
6. Fit the vacuum chuck connected to the vacuum line to the valve marked as 'vacuum' and press (not screw). The open end of the chuck firmly down on to the vacuum valve body. Screwing will damage the sealing rubber washer and cause the chuck to leak.
7. Evacuate the system to about -30 mm of Hg.
8. After use, simply lift the vacuum chuck straight away from the vacuum valve in order to disconnect it. Observe the pressure gauge. A leakage in the jar will be detected at this stage because the vacuum reading will not remain constant.
9. Attach the pressure chuck connected to the gas supply to the pressure valve of the jar. Run the gas mixture into jar until pressure is zero. Disconnect the pressure chuck.
10. Observe pressure changes in the jar.
11. Release more gas mixture to the jar until the gauge reads zero. Disconnect the pressure chuck. Incubate the jar.
12. The Anaerobic Indicator tablet will remain pink in the jar indicating anaerobiosis. Any kind of leakage leading to aerobic conditions will turn the colour of the tablets to purple.
13. The interior of the lid and jar should be kept free of dust.

Details of Accessories Fitted on Aluminum LID

1. **Aluminum Di-Casted Lid Fitted with Accessories:** It should be used on the jar when anaerobic conditions are generated inside the jar thru vacuum and then filling suitable gas inside the jar.
2. **Plain Lid:** It is used when anaerobic conditions are generated thru readymade gas packs available in the market. The jar capacity is 3.5 lit. hence gas pack of 3.5 lit. capacity to be used.
3. **Three finger clamp with screw:** This is used to tight the lid in the jar in three sides to avoid any kind of leakage from the jar.

Compound Gauge: This is vacuum cum pressure gauge having "O" position at top. It can measure up to -30inHg. vacuum and 15 psi pressure. It has one hole at the top which is covered thru a plastic cap.



PRECAUTIONS

1. The jar is designed to be used with anaerobe gas packs and must not be used with gas generating systems requiring the use of catalyst which without catalyst would result in a potentially explosive H₂/O₂ gas mixture.
2. The jar should not be autoclaved

REFERENCES

1. Murray, P.R., and D.M. Citron. 1991. General processing of specimens for anaerobic bacteria, p. 488-504. *In* A. Balows, W.J. Hausler, Jr., K.L. Herrmann, H.D. Isenberg, and H.J. Shadomy (ed.), *Manual of clinical microbiology*, 5th ed. American Society for Microbiology, Washington, D.C.
2. Morello, J.A., W.M. Janda, and G.V. Doern. 1991. *Neisseria* and *Branhamella*, p. 258-276. *In* A. Balows, W.J. Hausler, Jr., K.L. Herrmann, H.D. Isenberg, and H.J. Shadomy (ed.), *Manual of clinical microbiology*, 5th ed. American Society for Microbiology, Washington, D.C.

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

