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**INSTRUCTION MANUAL
OF
NO AIR
*[Anaerobic Jar]***

CAT. No. 52-01410

CAT. No. 52-02814

CAT. No. 52-01428

TechResource

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Dear Customer,

*Congratulations on procuring the **NoAir**.*

The NoAir is a robust anaerobic jar designed and manufactured for laboratories working with anaerobes.

*Our anaerobic jars are convenient and safe for use and enable management even by undergraduate students and most importantly; are very **economical**. They are specially made in a square shape to allow the use of 96 well plates and biochemical strips.*

The anaerobic jar is indigenously manufactured with high quality components and is specifically designed to suit Indian laboratory conditions. The small foot print enables it to fit easily on a work bench.

We sincerely hope you that you gain as much satisfaction in using the NoAir, as we achieved in designing and manufacturing it.

Regards,

The Production Team of TechResource

Precautions:

1. Please read the manual carefully before using the NoAir Anaerobic jar
2. Use the apparatus with care. It should be washed and rinsed with soft water, air dried at room temperature and stored covered
3. It should not be exposed continuously to temperatures outside the range of 0 to 40°C, exposed to organic solvents such as aromatic or halogenated hydrocarbons, ketones, esters, alcohol; over 30% or concentrated acids; exposed to other solutions which will attack plastics such as acrylic, nylon, silicone and polycarbonate or solutions which will attack metals such as acids.
4. **DO NOT** introduce pressure more than 5 PSI
5. **DO NOT** introduce vacuum more than - 14 PSI
6. **DO NOT** hold the assembly using the pressure gauge OR the clamp/ bolt.
7. Always place the lid with the pressure gauge side facing up.

Check before installation:

- A. Check for any physical damage to the unit that may have occurred in transit
- B. Functionality test
 - a. Place the lid on the lower tank with the gasket side towards the tank.
 - b. Slide the clamp into position over the lid such that the screw is positioned over the middle of the lid.
 - c. Tighten the screw in the clockwise direction. To obtain proper tightening you may require to use a spanner (size 27)
 - d. Using a pump introduce air till the gauge reaches 5 PSI.
 - e. Observe for any decrease of pressure over 2 hours.

Complete Specifications:

Model	NoAir	NoAir	NoAir
Catalog no.	52-01410	52-02814	52-01428
Internal dimensions [measurement excludes projecting parts]	13.5 (w) x 13.5 (d) x 18.0 (h) cm	28 (w) x 13.5 (d) x 18.0 (h) cm	13.5 (w) x 13.5 (d) x 28.0 (h) cm
External dimensions [measurement includes projecting parts]	20.5 (w) x 17.5 (d) x 32.0 (h) cm	35 (w) x 17.5 (d) x 32.0 (h) cm	20.5 (w) x 17.5 (d) x 46.0 (h) cm
Dimensions of the base [measurement includes projecting parts]	17.5 (w) x 17.5 (d) x 19.0 (h) cm	17.5 (w) x 17.5 (d) x 19.0 (h) cm	17.5 (w) x 17.5 (d) x 19.0 (h) cm
Dimensions of the lid [measurement includes projecting parts]	17.5 (w) x 17.5 (d) x 13.0 (h) cm	17.5 (w) x 17.5 (d) x 13.0 (h) cm	17.5 (w) x 17.5 (d) x 13.0 (h) cm
Pressure tolerance [Attempts to go beyond this point will irreversibly damage the instrument]	5 PSI	5 PSI	5 PSI
Vacuum tolerance [Attempts to go beyond this point will irreversibly damage the instrument]	-10 PSI	-10 PSI	-10 PSI

Essential components of the unit:

- a) One Jar
- b) One lid with
 - a. Pressure gauge
 - b. Air Nozzle
 - c. Gasket
- c) One clamping unit consisting of
 - a. Clamp base
 - b. Clamp screw

Other items needed to operate the NoAir:

- Vacuum pump
- Nozzle connector for the vacuum pump
- Gas cylinders (with appropriate tubing, nozzles, pressure valves and gauges), chemicals and glassware to obtain anaerobic conditions in the jar
- Clamp for tightening the unit

Procedure for using the apparatus:

1. Assembling and using the apparatus

The NoAir is compatible with most standard methods of creating anaerobic atmospheres. Please follow an appropriate method as per your convenience and substitute the steps in the procedure given as appropriate.

- 1.1. Place the petri dishes/ 96 well plates/ biochemical testing strips (or any other culture medium on which the anaerobic organism is to be grown) in the NoAir tank.
- 1.2. Placing the lid on the tank
 - 1.2.1. Do not handle the lid by the pressure gauge. Hold by the body of the lid
 - 1.2.2. Ensure there is no dust on the gasket
 - 1.2.3. Ensure there is no dust on the lip of the tank which is in contact with the gasket
 - 1.2.4. Gently wet the side of the gasket which comes in contact with the tank (Can be done simply by running a wet finger on the surface of the gasket)
 - 1.2.5. Place the lid on the tank ensuring it is snugly fitting
- 1.3. Clamping the assembly
 - 1.3.1. Loosen the bolt on the clamp (turn it anti-clockwise)
 - 1.3.2. Slide the clamp in place such that the base of the bolt is aligned with the dimple provided on the lid
 - 1.3.3. Tighten the bolt using the spanner provided (no. 27)
 - 1.3.4. Use a vacuum pump to introduce vacuum in the tank till negative 4 or 6 PSI.
 - 1.3.5. Use the spanner to tighten the nut completely. **VERY IMPORTANT** - Failure to do this step will cause leakages
 - 1.3.6. Observe the pressure gauge for any changes of pressure. Place the NoAir in an incubator at the temperature for time as per your requirement
 - 1.3.7. Periodically note the pressure on the pressure gauge and make sure it is maintained correctly. Also remember not to use the unit at any pressures beyond the recommended values of -10 to +5 PSI

2. Disassembly of the apparatus

- 2.1. When the incubation is completed use the nozzle to release the pressure/ vacuum build up.
- 2.2. To open the apparatus use a spanner and turn the screw anti-clockwise.
- 2.3. Slide the clamp out.
- 2.4. Open the lid to access the materials placed inside.

An optional clamp on the bottom of the lid can be given to hold a catalyst to scavenge any residual oxygen in the presence of hydrogen. This catalyst can be placed here if required.

Quick Trouble Shooting Guide

If the assembly keeps losing the vacuum, the system can be checked by introducing pressure till 5 PSI and using a soap and water solution to find the leakage points.

1. Problem with the gasket

Ensure that the gasket is not damaged.

It should be firmly stuck to the underside of the lid. If the gasket is loose it can be fixed in place using a silicone adhesive such as *Anabond 666*.

If the gasket is damaged it can be replaced with a spare gasket.

If it continues leaking check if the lip of the tank in contact with the gasket is smooth and does not have any damaged surfaces.

2. Leakage from the air valve

If there is a leakage from the air valve it is probably due to corrosion in the insides of the threading or due to the hardening of the rubber which provides the air tight contact in the pin.

Using the pin removal tool (an L-shaped pin removing device) turn the pin counter clockwise till it reaches the top. Replace with a new pin. Tighten the pin using the same tool (by turning it clockwise)

If you are facing any difficulty in understanding the instruction or operating the NoAir anaerobic jar, kindly contact us at: sales@techresource.in with your feedback on steps given above. This will provide us with necessary information to advise you properly.