

PLANNING TO BUY A WALK-IN STABILITY CHAMBER?

A must read guide to ensure your purchase goes as planned.

If you are an organization seeking a new walk-in stability chamber, there are some important things worth considering before making a purchase. Doing your homework before buying a chamber is vital, especially as it can ensure the installation and on-going operation of your chamber goes as smoothly as possible. Sure, you may think you have everything planned, but we advise checking out the following list of “*must do*” tasks which will ensure there are no surprises when you install your new stability chamber.

URS (User requirement specification)

A great place to start is with a URS. If you are unfamiliar with this term, it is essentially a document that outlines all the requirements, expectations, and technical demands you need from the equipment you are buying. Think of the URS as a detailed plan that highlights what you need the chamber to do. By documenting your requirements, you can compare stability chambers to ensure you have found the best solution for your demands.

Caution: Some organizations have a separate department for equipment purchases. If you are simply the purchase team, ensure you get a URS document directly from the team that will use the chamber. For added security, get the technical teams and maintenance teams to approve the URS once it's written.

Room drawing

While procuring a Walk-in Stability chamber the space around the equipment becomes a necessary factor to consider. It could save a lot of trouble if these calculations are done prior the order is placed. Make sure that there's enough headroom for the personnel to work. Also make sure there's enough space around the equipment. At the rear end, or at the side or even between two chambers connected consecutively. A thorough planning of such needs to be conducted at the client's end. And such document needs to be produced which enables the vendor with the ease of manufacturing considering all the constraints.

Note: A Schematic detailed drawing on how the panels will be fitted together will be provided by Osworld. This drawing will be based upon the room drawing provided by the client.

Outdoor refrigeration

The refrigeration unit in many cases is kept outside the room. The care here needs to be taken, to make sure it's not far from the equipment. The refrigeration system needs to be as close as it can to the equipment. At the same time, there needs to be enough space around the refrigeration system. This will ensure that the refrigeration system can be accessed easily should there be a breakdown condition.

Chamber panels

The walls of the equipment are constructed from a Puf panel. Every panel is assembled at the client site with a cam lock arrangement.

Utilities

Believe it or not, ordering the wrong utility is the No. 1 culprit for improperly operating stability chambers. Some things you need to be aware of with respect to utilities and new equipment installation include the following:

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Water availability

Stability chambers require water for fundamental operation. Any functional installation needs to provide a consistent and efficient water source close to the chamber, or preferable even at the point of installation.

Water pressure & quantity

Inlet water should run at normal tap pressure range. Water fed through DM plants could have excessive pressure thus resulting in steam generator inlet valve failure. The quantity of water needed for a chamber with a 324-liter capacity is not as much as you may think. For a chamber of this size, you should plan for water consumption in the region of around 30 litres of water per day. Of course, quantity can vary depending on ambient and operating temperatures, humidity, how much the door is open, and water quality.

Note: Gravity feed systems such as carboys are recommended but ensure the carboys are fitted with an automatic water filling/cut-off device. Place carboys above steam generator height to improve pressure.

Water quality

Water quality is important to the efficient operation of your chamber. In most cases, untreated tap water of drinking quality is sufficient. However, in areas that have hard water, we recommend the water be treated, single-distilled or single-deionized. Alternatively, partially demineralized water that has been filtered can be used.

Note: DEIONISED OR DISTILLED WATER IS NOT RECOMMENDED. We do not recommend use of ultra-pure water such as triple distilled, triple deionized, or high purity reverse osmosis water, because these increase the potential for component corrosion.

Problems that arise due to use of poor-quality water

Water quality is the primary cause of steam generator failure, causing heater element and low water level sensor failure (by encrustation with minerals from hard water) or corrosion (by DI water with excessive resistivity).

Room / Ambient temperature around equipment

We have observed that pharmaceutical companies which have centralized air conditioned laboratories with room temperatures maintained below 24°C provide for ideal conditions. The chambers installed in these organizations perform better than those not operating within this range.

Water source and room temperatures are two utilities that are very important. Osworld customer data indicates that 80% of all chamber complaints are due to these utilities not functioning properly.

Power supply

Stabilized input power supply of AC 230 volts +/- 10%, 50 Hz is recommended. In areas where the quality of voltage supply is poor, the use of a Servo controlled voltage stabilizer is necessary.

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Drain requirements

A free-flowing drain at floor level is required for the equipment to perform properly. A stability chamber has a condensate drain outlet placed 2 inches above floor level. This necessitates the room drain to be at floor level. If you provide a PVC drainage pipe, ensure it does not twist at bends. Preferably, copper piping should be used.

Note: It is important to maintain the drain as it can get messy if left unattended.

Preventive maintenance

Seeking the best utilities to meet your requirements for the most affordable price is what most customers desire. However, often organizations ignore a good level of post-purchase service, which is also an important component of chamber use. Manufacturers such as Osworld provide world-class after-care that includes chamber maintenance and ongoing customer support.

An important thing to remember is to add the cost of maintenance into your budget:

COST OF EQUIPMENT = PURCHASE PRICE + COST OF MAINTENANCE

Osworld is committed to providing a leading customer service environment. Our service assurance preventative maintenance kits for stability chambers are accessible by customers even after the chamber warranty has ended.

Service and maintenance frequency

One question customers frequently ask is how often they should have maintenance checks on a chamber. Well, a recommended schedule for periodic servicing is on a quarterly basis. Tough conditions such as high ambient temperatures or bad water quality can significantly shorten the lifetime of components and reduce the intervals between maintenance and component replacements. Perform preventive maintenance more regularly if the conditions around equipment are improper or if the utilities are incorrect. If conditions and utilities provided are excellent then maintenance every six months is acceptable, however preventive checks can be conducted at a more regular frequency.

Parts replacement frequency

As stability chambers age, the time between failures and operational problems naturally decreases. This is often down to component wear, although the conditions in which the chamber operates are also a factor. Based on Osworld's experience, we recommend replacement of certain components during preventive maintenance checks. Aging components can suddenly breakdown if they are not pre-emptively replaced during a maintenance service.

Preventive maintenance spare parts kit for Stability Chamber

The Osworld Stability Chamber preventive maintenance kits contain the service parts required for a scheduled maintenance, based on the recommended replacement intervals.

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Benefits

- Osworld Stability Chamber preventive maintenance kits contain genuine service parts.
- Kits are priced more economically than individually ordered parts.
- Parts are carefully selected and tested for the specific operating conditions.
- Replacing parts on time increase the time between failures.
- Spare parts reliability and availability are increased.
- Unplanned shutdowns are prevented, and repair cost reduced.

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