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Sustainability Tips

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Autoclave Sustainability Tips

Sustainability Tips

1. Don’t use plastic discard boxes. Although cheap and commonly available, plastic discard boxes insulate the loads the you are autoclaving and make your autoclave work harder.

2. Leave autoclave bags open. Sealing your autoclave bag traps air which in turn causes areas of the load to not reach temperature. This results in failed cycles and runs having to be repeated.

3. Verify your autoclave cycle with a biological indicator. Avoid unnecessary overkill cycles, as using a biological indicator on a shorter run can confirm its effectiveness. A negative result on a shorter cycle indicates suitability, potentially reducing the cycle time by up to 50%.

For smaller portable Autoclaves

4. Regularly check and clean the seals to to ensure less heat escapes, avoiding any wasted energy.

5. Using pure water in your machine will help to avoid build up of lime scale and will extend the life of your product.

6. Ensure care is taken when using your portable autoclave to avoid any damage. A damaged product will not run to its maximum efficiency and could be costing you higher running costs as a result.

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Balance Sustainability Tips

Sustainability Tips

1. Clear any debris and dust away from the balance on a regular basis.

2. Water damage as a result of cleaning is a common occurrence. If you think performance has been affected by water damage, let your service agent know this over the phone as they may be able to give advice that would prevent the costs associated with a service call.

3. Clean away any powder spills immediately. If powder attaches to internal weights, it will affect the balance's accuracy.

4. Don't leave anything on the weigh pan when you turn the balance off. This can appear to reduce the balance's maximum capacity through the balance zeroing on power-up.

5. Be careful over your choice of cleaning products as some are corrosive. We use "Mr Muscle" so use something equivalent to this.

6. Following on from the above, also be careful over your choice of disinfectants as many of these contain bleach that will corrode stainless steel.

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Centrifuge Sustainability Tips

Sustainability Tips

1. Most centrifuges will cope with small rotor imbalances. However, it's worth remembering that the faster you spin the rotor, the more the rotor will distort if it is not correctly balanced. It's worth spending time correctly balancing your centrifuge to maximize the life of both the rotor and the centrifuge.

2. When balancing the rotor don't just use two vessels as this will still distort the rotor.

3. Check the integrity of the lid seal regularly - especially for refrigerated units.

4. Clean the rotor bowl, buckets and inserts regularly but do not use chlorine based detergents as this can corrode metal and strip protective coatings.

5. If plastic components are involved watch out for corrosive compounds such as phenol in any liquids you are spinning.

6. Save money and preserve the life of the compressor on refrigerated units by pre-cooling rotors and buckets in a fridge or freezer.

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Class 2 Cabinet Sustainability Tips

Sustainability Tips

1. Changing to LED lighting (with dimmable feature) offers significant energy savings compared to traditional fluorescent tube lighting.

2. The use of H14 HEPA/ULPA filters provide up to 30% savings on power consumption.

3. Check if your cabinet features an energy saving mode. During Energy Saving Mode the working area is kept clean by a slight laminar flow and a slight exhaust flow rate keeps the cabinet in negative pressure ensuring total protection for operator and environment.

4. When you are not using the cabinet, ensure you switch off the power from the socket instead of turning it to stand-by mode. Although stand-by mode does use less electricity than being fully turned on, the older the model, the more electricity it is still likely to use.

5. Regularly maintain and calibrate Class 2 cabinets to ensure optimal performance. Well-maintained equipment is more energy-efficient and has a longer lifespan, reducing the need for frequent replacements

6. Prioritize suppliers and manufacturers that have strong sustainability practices. Choose products with minimal packaging and those made from recycled or sustainable materials

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CO_2 Incubator Sustainability Tips

Sustainability Tips

1. Check for wear and tear on door seals at least once a year. If the door is not sealing properly across the whole surface, your energy and CO2 costs will be needlessly high.

2. Check that units are running at their set points using external CO2 and temperature monitoring devices. (These monitors are not expensive and as they are used infrequently, can be shared amongst groups of users.) You will often find that set points have drifted out of calibration and if they are running high, once again your energy and CO2 costs will be needlessly high.

3. Check the integrity of the tubing between your CO2 cylinder and the CO2 inlets of the units on a regular basis. Most likely your units have CO2 alarms that will tell you when there is a serious problem. However, if there are small leaks in the tubing the incubators will simply call for more gas to compensate for this in order to maintain the set point. CO2 incubators should actually use very little gas over a week. It's often the case that most gas is being lost through leaks.

4. If users can agree a basic procedure for door openings this can often result in fewer door openings over the day. Even simply discussing the issue raises awareness that unnecessary door openings and leaving doors open for too long will increase energy and CO2 costs.

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Glass Washer Sustainability Tips

Sustainability Tips

1. Only run the glasswasher when it is fully loaded. Your machine uses the same amount of water per cycle, unless you have a setting that allows for less water use, so running a cycle only when full is more sustainable and should result in running the machine less frequent.

2. Use an eco-friendly, all-natural detergent, this is not only better for the planet but is also kinder to your machine and should extend the life of your glasswasher.

3. If your glasswasher has a setting labelled "eco-friendly", use it. If it does not, then consider washing your load at a lower temperature. The cooler the water you use, the less energy is used.

4. Many machines have a dry cycle option, instead of letting your washer use electric heat or a fan to dry the load, just open the door at the end of the washing cycle and let them air dry.

5. Carry out a regular visual check of the dispensing system for any damage. Equipment not running to it's full potential will waste energy.

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Fridges Sustainability Tips

Sustainability Tips

1. Check for wear and tear on door seals at least once a year. If the door is not sealing properly across the whole surface, your energy costs will be needlessly high.

2. Place your fridge away from heat sources such as ovens, glasswashers, out of direct sunlight, or away from other equipment that may radiate heat. Heat sources make these appliances work harder to keep their interior cool. To that end keeping your refrigerator / freezer in a well ventilated and controlled ambient will further reduce running times and energy consumption.

3. Clean your fridge's condenser coils every 6 to 12 months. Use a soft brush or a vacuum cleaner attachment on the coils, which are either at the bottom or the back of the fridge. Equipment not running at its full potential has the effect of using more energy and costing more to run for the end user. TURN THE UNIT OFF AND use a soft brush or a vacuum cleaner attachment on the coils.

4. Proper maintenance will give a longer life to your refrigerator and will also save more energy. So, be sure to regularly clean and defrost your machine.

5. Set the fridge thermostat to between 3°C and 5°C. Every degree lower requires five percent more energy.

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Freezer Sustainability Tips

Sustainability Tips

1. Check for ice build-up around the door, this can sometimes mean that your door seal is not fully closed and causes reduced heat insulation efficiency and obstruct door movements.

2. Defrosting your freezers on an annual basis will allow for the removal of built-up ice, and gives you the opportunity to give the interior compartment a clean.

3. Place your freezer away from heat sources such as the ovens or glasswashers or any other equipment that may radiate heat. Heat sources make these appliances work harder to keep their interior cool. To that end keeping your refrigerator / freezer in a well ventilated and controlled ambient will further reduce running times and energy consumption.

4. Set the thermostat in your freezer to the optimum energy-efficient temperature. Every degree lower requires five percent more energy.

5. Once the freezer is down to temperature most energy is consumed through temperature recovery after prolonged door openings. For this reason, being able to retrieve samples quickly is a major benefit. It therefore may be worth purchasing an inventory system. Depending on the usage it is likely the cost of the inventory system will be compensated for by the reduction in energy consumption, over the lifetime of the freezer.

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Fume Cupboard Sustainability Tips

Sustainability Tips

1. If possible, switch off both ducted and non-ducted fume cupboards when not in use.

2. Don't use fume cupboards as a storage cupboard. Materials that need ventilated storage should be stored in ventilated cupboards, not a fume cupboard. Ducted fume cupboards use up to 100x more energy than a ventilated cupboard.

3. For both types of fume cupboard, shut the sash completely when the fume cupboard is not in use. With ducted cupboards, when the sash is up it pulls room air into the hood while simultaneously pumping in reconditioned outside air. Closing the fume hood sash is a simple solution but has a huge impact.

4. Regular servicing is essential for safety. It could also save energy costs if clogged filters ducting issues are identified.

5. For ducted units, where possible, budget for Variable Air Volume (VAV). In Fume Cupboards this offers several benefits, including energy savings, improved safety, and greater control over airflow and containment. VAV systems adjust the air volume based on the specific needs of the fume cupboard, reducing energy consumption and costs. By maintaining a consistent airflow, VAV systems also help to ensure a safer working environment for laboratory personnel. Additionally, VAV systems offer greater flexibility and control, allowing for precise adjustments to airflow and containment to meet the demands of different experiments and applications.

6. For non-ducted units, consider a filter saturation alarm. This also helps both safety and energy usage.

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Incubator Sustainability Tips

Sustainability Tips

1. Check for wear and tear on door seals at least once a year. If the door is not sealing properly across the whole surface, your energy costs will be needlessly high.

2. Ensuring that regular maintenance work is performed at least once a year keeps your incubator working to the best of its ability and picks up any hidden faults or wear and tear issues that may be hampering performance.

3. With an increased amount of dust in the ambient air, clean the Peltier fan grid by suction or blowing several times a year. This will keep the equipment clean, and ensures it is functioning efficiently.

4. If users can agree a basic procedure for door openings this can often result in fewer door openings over the day. Even simply discussing the issue raises awareness that unnecessary door openings and leaving doors open for too long will increase energy costs.

5. Choosing cabinets with automatic lighting and timers can not only be better for timed experiments but will also save more energy. Once the desired light dosage is achieved, the chamber switches off automatically.

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Liquid Nitrogen Vessels Sustainability Tips

Sustainability Tips

1. Due to the construction of a aluminium vessel, it is an shell on the outside, a vacuum and an inner shell. The outer and inner shell are only connected around the lid of the vessel. If you have a unit on castors still try to move the unit as infrequently as possible. Any movement can put pressure on the connection between the outer and inner shells and over time compromise the vacuum resulting in a greater liquid nitrogen consumption.

2. Keep a log of the nitrogen loss of each vessel you own. If nitrogen losses increase over time or vary between manufacturers, models or users contact your gas supplier or Wolflabs for input on ways that nitrogen loss might be reduced.

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Ovens Sustainability Tips

Sustainability Tips

1. Check door seals to ensure less heat escapes.

2. Regular service to ensure the heating element is working to full capacity. Equipment not running at its full potential has the effect of using more energy and costing more to run for the end user.

3. Choosing insulated chambers, and doors with double glazing save energy costs by over half.

4. Many ovens now have the option to use a mobile app, which allows you to check the status of the dry chamber in real time. This will enable you to remotely monitor your run without any unnecessary door openings, which could lose heat and create unwanted heat and energy waste.

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Ovens (Drying/Warming) Sustainability Tips

Sustainability Tips

1. Check door seals to ensure less heat escapes.

2. Regular service to ensure the heating element is working to full capacity. Equipment not running at its full potential has the effect of using more energy and costing more to run for the end user.

3. Choosing insulated chambers, and doors with double glazing save energy costs by over half.

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Microplate Readers Sustainability Tips

Sustainability Tips

1. Ensure air cooling fans and photo optics are free of dust but keeping away from air / ventilation ducts.

2. Periodically remove from the bench and clean underneath the machine in order to remove any dust that could be sucked into the unit.

3. Prevent photo optics over heating by making sure the cooling vents are not obstructed.

4. Certain readers are programmed to be energised whilst the unit is powered on – save costs by ensuring the unit is never left on longer that the manufacturer recommends.

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Spectrophotometer Sustainability Tips

Sustainability Tips

1. Ensure air cooling fans and photo optics are free of dust by keeping away from air / ventilation ducts.

2. Periodically remove from the bench and clean underneath the machine in order to remove any dust that could be sucked into the unit.

3. Prevent photo optics over heating by making sure the cooling vents are not obstructed.

4. Certain readers are programmed to be energised whilst the unit is powered on – save costs by ensuring the unit is never left on longer than the manufacturer recommends.

5. Regular calibration ensures accurate measurements, reducing the need for repeat tests and minimizing resource consumption.

6. When purchasing reagents or consumables for spectrophotometry tests, opt for products with minimal packaging, eco-friendly certifications, or sustainable sourcing practices.

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Water Purification Sustainability Tips

Sustainability Tips

1. Water purification systems will only perform at their peak when supported by routine cleaning and maintenance. Also, bacterial build-up can seriously reduce component life and system performance. Our advice is therefore that you should install a routine cleaning and maintenance protocol once the system is installed.

2. Don’t sanitize too often. System sanitization must be available but only needs to be done as required to maintain specifications and to minimize filter changes; a rigid regime can be wasteful.

3. Make intermittent circulation part of your regular routine. Recirculation of the purified water through the purification technologies is vital but power usage and water warming can be minimized by intermittent recirculation.

4. You can clean and re-use filters to ensure less landfill waster. Point-of-use filters will need a brief flush to rinse them but point-of-use cartridges containing media are particularly environmentally poor as they are not part of a recirculation system and require extensive flushing with highly purified water before re-use.

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Water Bath Sustainability Tips

Sustainability Tips

1. Never run the bath without water in it - even if you are taking it out of the box for the first time and checking the power.

2. Remember to change the settings if working with thermal beads rather than water.

3. If possible, use a lid. This will save energy and there are different options available for addressing the issues associated with lids.

4. Site carefully! The unit will have difficulty holding temperature if sited next to an air conditioning unit or bright sunshine.

5. Remove limescale on a regular basis.

6. When cleaning the unit do not use de mineralised water or cleaning products containing bleach.

7. Never rest anything on the base of the bath. Always use the plastic tray provided instead. Resting vessels on the base of the bath will interfere with the heating system and shorten the life of the bath.