Desiccators

Desiccators are an economical and reliable way to assure dry, dust-free, and if necessary oxygen-free storage of humidity sensitive products, such as valuable reagents or electronics.

Depending upon what you are storing, optimal conditions can be achieved by selecting the type of desiccator that is most suitable for your applications. The four basic types of desiccators are standard, automatic, gas purge and vacuum.

When choosing a desiccator the following questions should be considered:

What storage environment is optimal or required?

Use this chart for an overview of the environment and benefits each method of desiccation provides.

Methods of Desiccation

Standard Desiccant	Automatic Desiccant Regeneration	Gas Purge	Vacuum
Manual monitoring and operation. Moisture is absorbed from air in the unit by using a desiccant. Once the desiccant is 'saturated' it must be regenerated through heating, or replaced.	Electric fans and heaters continuously regenerate the desiccant to prevent saturation and to automatically maintain a low humidity environment.	A slow steady flow of inert gas (often dry nitrogen) is provided.	Air and moisture are removed from the chamber by use of a vacuum pump.
Flexibility to use any type of desiccant (silica gel beads, activated charcoal, etc.) based on economics and convenience.	Convenience, requires minimal monitoring.	Achieve relative humidity at a much faster rate.	Best for total dry storage or if air could be damaging to material being stored.
Portability.	Precise control of humidity. Operates on a set schedule of desiccation followed by a regeneration period.	Dust free and desirable for many applications including clean room environments.	Dust free and desirable for many applications including clean room environments.
Economical functionality. Most desiccants can be regenerated periodically.	Process uses silica gel beads that last for thousands of regeneration cycles.	Option to close stopcocks and use with regular desiccants.	Option to close stopcocks and use with regular desiccants.

What size(s) are the items you need to store and in what quantity?

Interior volume of the desiccator and shelving should be considered. As a visual reference of the interior space we have estimated how many standard 12 oz cans of soda would fit into each unit. Estimates are a guideline based on interior volume and do not take shelving or desiccator shape into consideration.

How important are ease and economy of use?

Each method of desiccation has advantages and trade-offs. Each user must determine the method that best serves their purposes. Using standard desiccants and regenerating them as needed is economical, but requires monitoring. There may also be more variability in your environment. An automated desiccator requires much less monitoring but uses electric power. Gas ported desiccators are quick to achieve relative humidity, but if the unit is accessed frequently, proportionately more gas will be needed to keep the desired low humidity level. Vacuum desiccators remove air and moisture and can be brought back to vacuum rather easily after opening, but require a pump.

Once you have determined your most desirable method of desiccation, there are a variety of styles and sizes of desiccators to choose from.

Scienceware® Desiccator Brands

Method	Volume (cu.ft.)	Secador®	Space Saver	Techni-Dome®	Dry-Keeper™	Scienceware®
Standard Desiccation	Less than 0.50	X	X		X	X
	0.51 – 1.25	X				X
	1.26 – 1.74	X			X	
	1.75 and up	X			X	
Automated, Standard Desiccation	Less than 0.50					
	0.51 – 1.25	X			X	
	1.26 – 1.74	X				
	1.75 and up	X			X	
Gas Purge Desiccation	Less than 0.50	X			X	
	0.51 – 1.25	X			X	
	1.26 – 1.74	X				
	1.75 and up	X		X		
Vacuum Desiccation	Less than 0.50		X			X
	0.51 – 1.25					
	1.26 – 1.74					
	1.75 and up			X		

Secador® Desiccator Cabinets

Durable, co-polyester construction blocks 99% of UV light (mini is polystyrene)

Patented door seal provides superior protection from moisture

Portable & stackable

NOTE: All 1.0, 2.0, 3.0 and 4.0 cabinets are interchangeably stackable, except 4.0 horizontal.

Built-in, convenient carrying handles

Easy-to-view dial hygrometer in door

Door can be secured with tamper-evident tags or padlock

*Automated models provide continuous desiccant regeneration**

Automated models available in 100VAC, 120VAC and 230VAC

All sizes are available with optional gas ports to allow gas purging of the cabinet.

** All non-electric models can be used with any desiccant including Disposable Desiccant Cartridges F42048-0065, -0100, or Desi Can™ Reusable Desiccant Canister F42046-0000.*

Brand Details

Secador® Desiccator Cabinets

A UV Light Blocking, Dry Environment

The attractive design and sturdy construction of the Secador® line of desiccator cabinets assures easy and reliable storage of moisture and light sensitive products. Choose from an extensive selection of sizes, styles and colors of desiccator cabinets to meet your specific needs.

- Standard, Automated (100, 120 and 230 VAC) and Gas-ported models available
- Durastar® co-polyester construction blocks 99% of UV light* and is resistant to staining, crazing and chemical attack
- Amber color models reduce visible light penetration by over 50% making it the perfect choice for storing light sensitive materials like reagents, analytical standards and investigational compounds
- Large doors maximize access to interior space and have a patented seal design, tab latches and security loops for a padlock or tamper-evident seals
- 1.0, 2.0, 3.0 and 4.0 – vertical units have a compact 34.1W x 41.4cmD footprint for space saving stacking up to 3 units high; 4.0 horizontal has a wider footprint and lower height
- Perforated shelves facilitate circulation of dry air
- Easy-to-view dial hygrometer is located in the door front

**Mini cabinets are molded of polystyrene which does not block UV light.*

"SPACE SAVER" Standard and Vacuum Desiccators

Maximize Your Space in the Laboratory or Classroom

In less than 12" of benchtop space, these strong, shatterproof desiccators will store and protect sensitive products.

- 'Flat Dome,' clear polycarbonate top with knob maximizes interior clearances and provides an average of 13% greater interior volume over standard hemispherical domes
- Vacuum models hold a full vacuum (29.9" Hg 75.9cm) at room temperature for 24 hours and will remain airtight even if not under vacuum; non-vacuum models also available
- White polypropylene bottom models can support incandescent crucibles on Minerit HD High Heat Ceramic Desiccator Plates (page 108.)
- Large ribbed knob for easy lifting; extra heavy walls
- All models include a 0.32 cm (⅛") thick perforated plate

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Techni-Dome® 360 Vacuum or Gas-Ported Desiccators

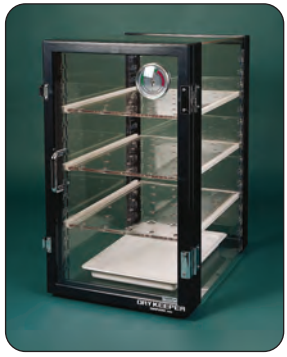
View More, Store More, Dry More

Generous quantities of standards, samples, electronics or other sensitive items can be protected in the Techni-Dome® 360 vacuum desiccator. A traditional style domed desiccator, the Techni-Dome® 360 is made from high-grade polycarbonate and offers a clear, unobstructed view of contents, with exceptionally large storage space, portability and ease of use.

- Users will find that this model has a generous 65 liter (4000 cu. in.) internal volume and can hold items up to 45cm (18") tall or wide, including racks, trays and instruments
- Polycarbonate material is resistant to most common chemicals, as well as thermal stress, and wipes clean easily
- Available with one or two gas ports to offer the flexibility of using multiple gases or faster cycle times between vacuum and release
- Holds a full vacuum (29" Hg, 737mm) at room temperature for 24 hours; a high quality silicone gasket ensures that the desiccator will remain airtight even when not under vacuum
- Two removable polypropylene shelves, 36.5cm and 22.5cm (14.5" and 9") in diameter maximize storage capacity
- Side handles provide easy portability and can be used as a place to affix tamper-evident seals
- Top half of the desiccator nests into the bottom for convenient storage when not in use

Dry-Keeper™ Desiccator Cabinets

Clear View, Cabinet Style Desiccators in Polystyrene or Acrylic



This line offers automated and standard units with a variety of choices in size, horizontal or vertical profiles and various materials including crystal clear methyl-methacrylate with sleek black metal trim.

- Adjustable shelving with holes for full air circulation
- Shelf rails provide flexibility for optimum placement of shelves
- Doors have a foam rubber gasket and latches to assure a tight seal
- Automatic units have a permanent desiccant that lowers relative humidity to 30-40% and a light indicator to signal absorption and regeneration periods

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