Desiccators

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

Proper storage conditions can be optimized by selecting a desiccator size, shape and control mechanism best suited to your application, space requirements and items to be stored.

The four basic types of desiccators are standard, automatic, gas purge and vacuum.

When choosing a desiccator the following questions should be considered:

1. 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 be 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 through 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.

2. How do you choose the proper desiccator?

First decide what method of desiccation best suits your needs. Each method has its unique advantages and trade-offs.

Standard desiccators typically use desiccant cartridges and are economical, but they require monitoring so that cartridges can be changed as needed to maintain a continuous dry environment. Automated desiccators regenerate desiccant as needed requiring minimal monitoring and no worries about samples being compromised, but are generally more expensive than standard desiccators. Vacuum desiccators remove air and moisture with the use of an in-house laboratory vacuum or vacuum pump and can be brought back to vacuum easily after opening. Vacuum desiccators can also be used for degassing techniques. How long vacuum is maintained can vary from model to model. Gas ported desiccators are available for desiccation with gases such as argon and nitrogen to achieve ultra-dry environments.

3. How do you know what style and size of desiccator to choose?

Identify the size of the items you need to store and in what quantity. Where the desiccator will be housed, its interior volume, and shelving options should be considered. Both round and cabinet style desiccators range in size from quite small to very large.

Round style desiccators typically have one shelf, and a domed top to provide extra vertical space. Cabinet style desiccators tend to have easier accessibility, greater storage capacity and may have stacking ability to save exterior space. They often have multiple shelves, many of which are adjustable to suit your needs. Traditionally vacuum desiccators were only available in round style as a square shape would be expected to implode under vacuum. Lab Companion desiccators, however have overcome this concern and can withstand the vacuum, so they provide the benefits of vacuum desiccation with the ability to store more items with easier access and in less space.

Scienceware® Desiccator Brands

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

Bel-Art • H-B Instrument
SP SCIENCEWARE™

Brand Details

Secador® Refrigerator Ready Desiccator

Moisture Free Storage in Cold Spaces

- Extra-long depth and pull-out shelves allow full use of refrigerator shelf depth
- Door opens from top down allowing trouble-free access to desiccator contents
- Wide rubber feet prevent the cabinet from sliding even on wire refrigerator racks

Secador® Desiccator Cabinets

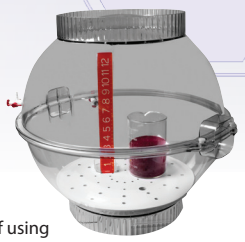
A UV Light Blocking, Dry Environment

- Easy and reliable storage of moisture and UV sensitive products
- 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

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

Techni-Dome® 360 Vacuum or Gas-Ported Desiccators

View More, Store More, Dry More



- Spacious 65 liter (4000 cu. in.) internal volume 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

"SPACE SAVER" Standard and Vacuum Desiccators

Maximize Your Space in the Laboratory or Classroom

- Use less than 12" of benchtop space
- 'Flat Dome,' clear polycarbonate top maximizes interior clearances
- Vacuum models hold a full vacuum (29.9" Hg, 75.9cm) at room temperature for 24 hours; non-vacuum models also available
- White polypropylene bottom models can support incandescent crucibles on Minerit HD High Heat Ceramic Desiccator Plates

Dry-Keeper™ Desiccator Cabinets

Clear View, Cabinet Style Desiccators in Polystyrene or Acrylic

- Automated and standard units with a variety of choices in size, horizontal or vertical profiles and various materials
- Adjustable shelving with holes for full air circulation
- Shelf rails provide flexibility for optimum placement of shelves
- Automatic units have a permanent desiccant that lowers relative humidity to 30-40% and a light indicator to signal absorption and regeneration periods

Lab Companion™ Vacuum Desiccators

Sustained Vacuum Integrity Up to 3X Longer Than Other Brands

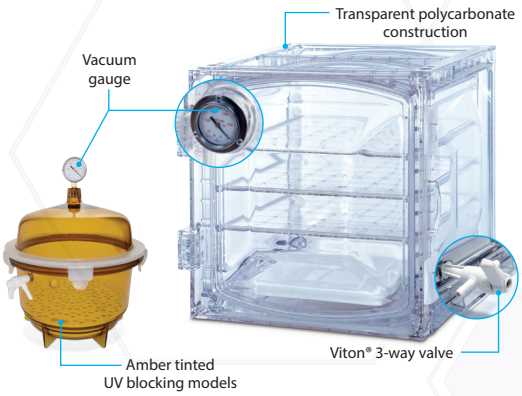
- Able to maintain 29in.-Hg vacuum for over 72 hours at room temperature, they provide vacuum integrity resulting in lower maintenance and greater peace of mind
- Viton® 3-way valve offers consistent and uniform vacuum draw, vacuum release, or gas exchange
- Analog vacuum gauge
- Amber tinted UV blocking models block 100% of UVA, B, and C light

Cabinet Style Lab Companion™ Vacuum Desiccators

- Single piece molded design (except the door) enables outstanding vacuum capability with virtually no leakage and exceptional durability
- Perforated shelves can be removed or repositioned to accommodate various storage needs

Round Style Lab Companion™ Vacuum Desiccators

- High-quality silicone O-ring and specially designed locking ring allow outstanding vacuum capability with virtually no leakage



Grande Desiccators

Dry Storage on a Grande Scale

- Available in standard, automatic and gas purge models
- Spacious 3.6 cu. ft. internal volume

SP-0103-RevA-D

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