

**INSTRUCTIONAL MANUAL
CAT. Series #71260-18 through #71260-23**


**Round Style
Lab Companion™ Vacuum Desiccators**




Safety Symbols Used in this Instruction Manual

This manual contains important safety and operating information. Read carefully and understand the entire contents of this manual prior to the use of this equipment.


Safety Symbols and their meanings:


 Alerts operator to potential operational problems

 Alerts operator to potential serious injury or property damage

 Alerts operator to potential serious or even fatal injury

General Alerts

 • NEVER install this unit near hazardous and/or flammable substances.
• NEVER install or use this unit in explosive atmospheres.
• NEVER disassemble, modify, or repair this unit on your own. Any such action will void the warranty and may result in injuries and/or product damages.

 • Read carefully ALL warning labels before using this unit.
• DO NOT remove or damage the warning labels.
• DO NOT expose this unit to any heat sources including direct sunlight.
• DO NOT use this unit in wet or moist atmosphere or where water leakage is expected.
• DO NOT move this unit while it is in operation.
• DO NOT use this where metallic dust is present.
• DO NOT allow organic solvents, dust, moisture, or corrosive gases to get into this unit.
• DO NOT use this unit in contaminated atmospheres.
• DO NOT use ammonia-based cleaners, chlorine bleach, ammonia, abrasives, or metal scouring pads. Wipe ONLY with a soft, dampened cloth or a sponge soaked in a diluted, neutral detergent or water.

Introduction

Thank you for purchasing our high-quality, round vacuum desiccator which eliminates the guesswork and has an easy to view vacuum gauge. It is made to provide maximum performance and durability, while also being safe and easy to use. This unit provides outstanding vacuum sustainment and allows for longer term experiments by maintaining a 1 Torr (133 Pa) vacuum for over 72 hours at room temperature while staying gas-tight.

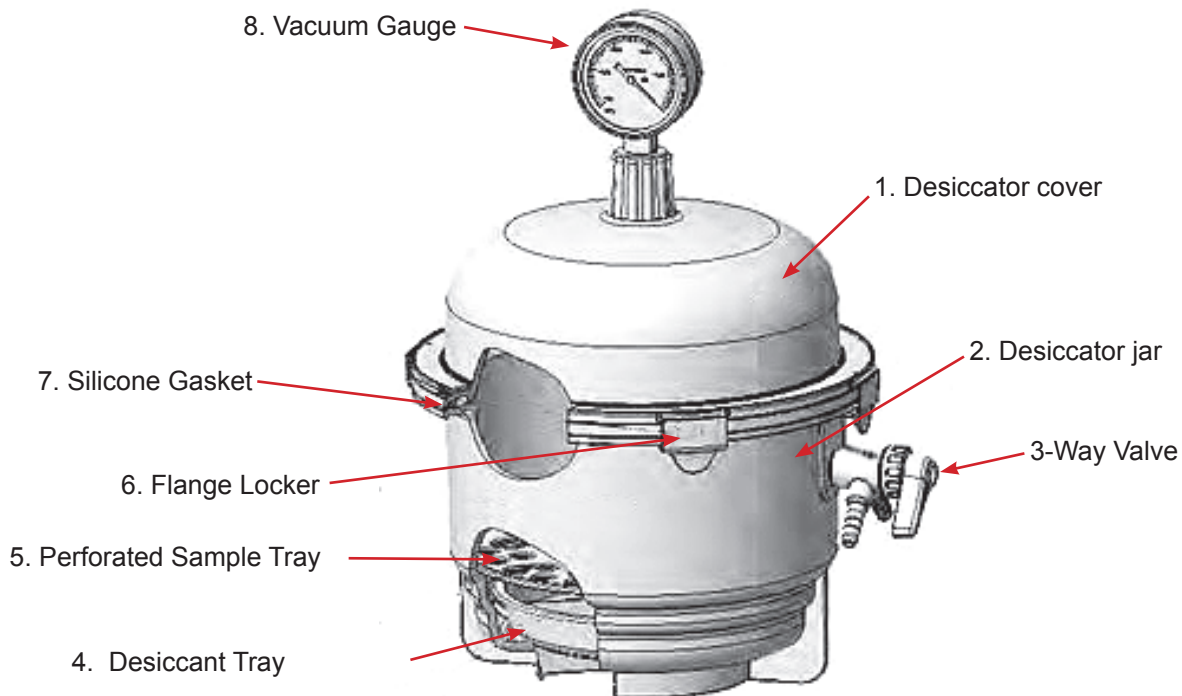
There are six models to choose from; 6, 10, and 20 liter internal volume in clear or UV blocking amber. Features include:

- Built-in analog vacuum gauge at the top of the unit for easy observation
- High-quality silicone O-ring
- A specially designed, multi-purpose locking ring that has outstanding vacuum capability with virtually no leakage, plus it also secures top and bottom halves when vacuum not in use *and* provides additional convenience and safety when moving the unit
- Amber-tinted models are also UV blocking, minimizing damage/discoloration of light-sensitive samples with UV-blocking resin that blocks all ranges of UV and the blue spectrum of the visible light.
- Light weight and shatter-resistant

These vacuum desiccators provide a contamination-free, corrosion-free, and dust-free environment that has very low humidity and can be used for:

- Low pressure experiments
- Low pressure drying, thus a reduction in heat effects
- Residual air bubbles and/or solvents removal
- Anaerobic microbes cultivation
- Minimizing the re-absorption of humidity and the exposure to air during the drying or the cooling stages of biological/materials/food/medical experiments

Description



1. & 2. *Desiccator Cover & Desiccator Base* are made of molded, transparent polycarbonate, making the unit shock-resistant, highly tensile with extreme durability as well as convenient visual observation from the outside. The body is molded as a single piece (no seam requiring adhesive) thus allows for virtually no leakage.
3. *Viton® 3-Way Valve* is leak-proof and offers consistent and uniform vacuum draw, vacuum release, or gas exchange without having to connect and disconnect pump hoses to the unit. An optional, additional 3-way valve can be attached to the port at the base, if desired.
4. & 5. *Desiccant Tray and Perforated Sample Tray* – all units come with one of each type of tray.
6. The *Flange Locker* allows for tight sealing for both vacuum and non-vacuum applications. It also provides additional convenience and safety when moving the unit.
7. *Silicone Gasket* ensures reliable vacuum formation and sustainment without using any grease. The vacuum seal is purposefully designed to fit snugly into the bottom groove of the body for easy cleaning and maintenance,
8. *Vacuum Gauge* is installed on top of the body, offering an easy and convenient way to check the vacuum level.

NOTE: Amber-tinted models are also UV blocking which help to minimize damage or discoloration of light-sensitive samples by using UV-blocking resin which completely blocks all ranges of UV and the blue spectrum of the visible light.

Unpacking

As you unpack the instrument, make sure all parts are present. If something is missing, please contact Customer Service at 1-800-523-5874:

- Desiccator Jar
- Desiccator Cover
- Perforated Sample Tray
- Flange Locker
- Vacuum Gauge
- Desiccant Tray
- Silicone Gasket
- 3-Way Valve

Also, check for any damage that may have occurred during shipping. If you should find any damage, notify the *carrier* immediately.

Installation Environment

This unit is designed for indoor use in laboratory environments. Ensure the following conditions are met for proper installation.

NOTICE

- Operational problems may arise if instrument is exposed to any heat source, including direct sunlight
- Instrument must be installed on a level surface
- Instrument must be installed at least 30 cm away from any other equipment
- Permissible ambient temperature range is 5 to 40°C (41 to 104°F)
- Permissible relative humidity is <80%
- Permissible altitude is 0 to 2,000 m (6,562 ft.)

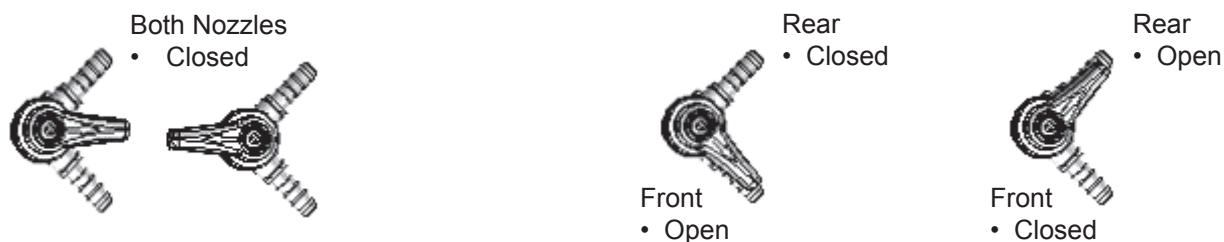
Operation

CAUTION

- This unit cannot be autoclaved
- DO NOT form a vacuum when airtight containers are inside the unit
- Ensure proper sealing when attaching an additional 3-way valve or some other equipment, or after removing the port plug
- Avoid direct contact with high-temperature samples and the inside of the unit, so as to avoid damage of the instrument by thoroughly cooling samples before placing inside jar

3-Way Valve Operation

The positioning of the 3-way valve is very important. Illustrations below show positionings.



Vacuum Formation



- Keep the valve handle perpendicular to the nozzles when the unit is not forming a vacuum.
- When forming or releasing a vacuum, turn the valve handle slowly to avoid rapid pressure change. If this is not done, the stored samples can be damaged or dispersed.
- DO NOT let the body of the unit into direct contact with acetone, benzene, chloroform, cresol, toluene, sodium hydroxide, highly concentrated nitric or sulfuric acid, acetic acids, or strong chlorine-based solvents
- DO NOT impact or drop the unit when a vacuum is formed inside.
- DO NOT apply excessive force to the vacuum gauge, the 3-way valves, or any of their vicinities when a vacuum is formed inside the unit. Any damages caused by external forces can cause malfunction of the unit
- Install a cold trap in front of the vacuum pump while forming a vacuum, otherwise moisture and chemicals from the samples may result in damages to the pump.
- The silicone gasket can be severely damaged by strong acid or base and a damaged gasket can cause malfunction of the unit
- When relocating the unit, do not carry by the protruding parts (the vacuum gauge or the 3-way valves).

Directions for Forming a Vacuum

1. Connect the vacuum pump hose to one of the two nozzles of the 3-way valve.
2. After activating the vacuum pump, turn the valve handle towards the nozzle to open it and read the vacuum gauge to check whether the vacuum is forming properly.
3. When the desired vacuum level is reached, turn the valve handle until it is perpendicular to the nozzle to close it and check the vacuum gauge to see if there is any leakage.
4. When releasing the vacuum, slowly turn the valve handle towards the opposite nozzle to return to the normal pressure.

Maintenance

Regularly clean and check all components for wear or damage: Desiccator Jar, Flange Locker, Silicone Gasket, Desiccator Cover, Vacuum Gauge, 3-Way Valve, Perforated Sample Tray, and Desiccant Tray.



- Clean ONLY with a soft, dampened cloth or a sponge soaked in a diluted, neutral detergent or water.
- DO NOT clean with use ammonia-based cleaners, chlorine bleach, ammonia, abrasives, or metal scouring pads. If the unit is contaminated, wear chemicals-resistant gloves before cleaning
- Make sure to clean the silicone gasket regularly using diluted neutral detergent. For thorough cleaning, detach the seal from the lid to clean.

Unit Disposal

If the instrument has been potentially exposed to bio-agents or radioactive samples it must be disposed of in an environmentally responsible way. Failure to follow stringent requirements for appropriate disposal may lead to actions against you and your organization.

Follow the policies/procedures of your laboratory or organization for disposal of laboratory equipments and wastes. If necessary, contact local governing body for regulations regarding disposal of laboratory equipment.

Trouble Shooting

Problem	Cause	Corrective Action
Vacuum Malfunction	Contaminated surface between the body and the base	Thoroughly clean the surface with a soft cloth using diluted neutral detergent
	Damaged gasket	Replace the gasket
	Damaged vacuum gauge	Replace the gauge
	Misplaced or damaged 3- way valve	Check whether the valve is properly set. If damaged, replace it with a new one
	Unsuitable room temperature	Check the temperature whether it is within the operating range

Technical Specifications

Catalog #		71260-18	71260-19	71260-20	71260-21	71260-22	71260-23
Color		Clear	*Amber	Clear	*Amber	Clear	*Amber
Vacuum	Gauge Range (MPa)	0 ~ -0.1 (Analog)					
	Max. Permissible	1.33 x 10 ⁻⁴ MPa (1Torr)					
	Nozzle Diameter (mm)	Ø 9.5					
Material	Cover/Jar	PC (Polycarbonate)					
	Flange Locker, Tray	PP (Polypropylene)					
	Vacuum Gasket	Silicone					
Dimensions	Internal Volume	0.2 cu. ft. / 6 L		0.4 cu. ft. / 10 L		0.7 cu. ft. / 20 L	
	Overall - mm (W x H with gauge)	286 x 279 mm (286 x 354 mm)		353 x 325 mm (353 x 400 mm)		427 x 399 mm (427 x 475 mm)	
	Net weight (kg)	1.5 kg / 1.7 kg		2.5 kg / 2.6 kg		4.2 kg / 4.3 kg	
Tray	Perforated Sample Tray (mm)	192 mm		250 mm		310 mm	
	Max load (kg)	15 kg		20 kg		25 kg	

***NOTE:** The Amber colored Vacuum Desiccators provide UV Protection (Range) – UV A,B,C 100% (200~450nm)

**Electron
Microscopy
Sciences**

For any questions or for ordering information,
please contact Customer Service at
1-800-523-5874

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