Rotary Evaporator Enclosure

Laboratory Safety While Using a Rotary Evaporator

In the laboratory, a rotary evaporator (rotovap) is employed to remove volatile solvents or isolate components of reaction mixtures by evaporation. This may be done following a separation or extraction process. During rotary evaporation, the solvent is removed under vacuum and is subsequently trapped by the condenser and collected.

Although a rotovap is designed to condense and collect evaporated solvents, the possibility exists for small amounts of volatiles to escape the apparatus, posing potential risks of chemical fume exposure, explosion or implosion. These applications warrant additional protection for laboratory personnel by placing the unit in a fume hood or enclosure, minimizing potential risks associated with inhalation of noxious fumes and guarding against injury from exploding or imploding glassware. Since safety is critical to a successful laboratory outcome, ensuring the correct equipment is in use is vital to that success.

Air Science® **Rotovap Custom Enclosures** and Purair® **Basic** and **Advanced** ductless fume hoods are engineered to provide protection and containment during rotary evaporation applications in the laboratory. These units provide containment for the rotovap while permitting operator access and visibility of the enclosed operation. From customizable Rotovap Enclosures to affordable ductless fume hoods, Air Science protects your personnel during rotary evaporation procedures.

Learn more about our products or **contact us** for information on addressing your specific needs.

ROTARY EVAPORATION SAFETY CONSIDERATIONS

Use of a rotovap in a fume hood or enclosure minimizes the risk associated with hazardous fume inhalation and protects from injury resulting from exploding or imploding glassware. Necessary personal protective equipment includes lab coats, eye protection, close-toed shoes and appropriate gloves.

- Processes using solvents generating noxious vapors that may escape the unit should be conducted in a fume hood or enclosure.
- Explosion may occur when using chemicals or mixtures that can be explosive under certain conditions, creating the risk of the operator or others in the area being injured by projectile glass or chemical exposure. A fume hood with the sash lowered serves to reduce the risk of injuries.
- Implosion can occur if glassware being utilized carries an undetected deformity, causing failure once it is placed under vacuum pressure, resulting in the potential for injury. Operation in a fume hood provides operator protection, particularly when maintaining a lowered sash during applications.
- When performing a high temperature evaporation process requiring the use of a heated oil bath, setting up under a fume hood makes the process less likely to be disturbed or pose a burn injury risk to others in the area.
- In order to facilitate operation of a rotary evaporator under a fume hood, a diagonal set up is preferred since a vertical condenser may be too tall to fit in the fume hood.

AIR SCIENCE DUCTLESS ROTOVAP ENCLOSURES AND FUME HOODS

While performing rotary evaporation, the cost-effective protection delivered by ductless units also provides maximum safety and flexibility to the laboratory. Ductless technology offers a host of benefits and features designed to help save money and provide enhanced protection to operators and the environment. No ductwork installation costs are incurred, and no demands are required of the facility HVAC capacity for make-up air since filtered, conditioned air is returned to the room. These Air Science products incorporate exclusive **Multiplex™ Filtration Technology**, customizable to meet a wide range of multiple-use applications. Product installation and maintenance are straightforward, and units are easily transported to accommodate changing operations with a minimum amount of downtime.

ROTOVAP ENCLOSURE P5-24 ROTARY

The ductless **Rotovap Custom Enclosure** offers increased internal height, featuring a spacious interior, customizable for a larger rotovap apparatus with a taller condenser column. A horizontal sliding or hinged door(s) provides for greater access to the interior, while built in air slots allow bypass when closed, maximizing operator safety and process accessibility.

Model	External Dimensions (W x D x H)
P5-24-ROTO-A	39" × 24" × 50" / 990.6 × 609.6 × 1270 mm
P5-24-ROTO-G	39" × 24" × 50" / 990.6 × 609.6 × 1270 mm
P5-24-ROTO-DUCT	39" × 24" × 44" / 990.6 × 609.6 × 1117.6 mm

LEARN MORE

Purair® BASIC

The **Purair Basic** series of ductless fume hoods is designed to provide high level protection for the user and the environment at an affordable price. Featuring Multiplex Filtration Technology, the Purair Basic creates a safe work environment over a wide range of applications. Choose from 12 standard and shallow depth models in metal or polypropylene construction, available in 24", 36" and 48" widths.

Purair® ADVANCED

Purair Advanced series ductless fume hoods are designed to protect the user and the environment from hazardous vapors generated on the work surface, incorporating high capacity filters and Multiplex Filtration Technology to meet demanding applications. Purair Advanced products are available in 7 sizes, in metal or polypropylene construction, totaling 14 standard models.

Air Science®

Air Science® USA LLC
120 6th Street • Fort Myers, FL 33907
T/239.489.0024 • Toll Free/800.306.0656 • F/800.306.0677
www.airscience.com

ENERGY STAR PARTNER

ISO 9001
ISO 14001
BUREAU VERITAS Certification
N° US010998 / N° US010999