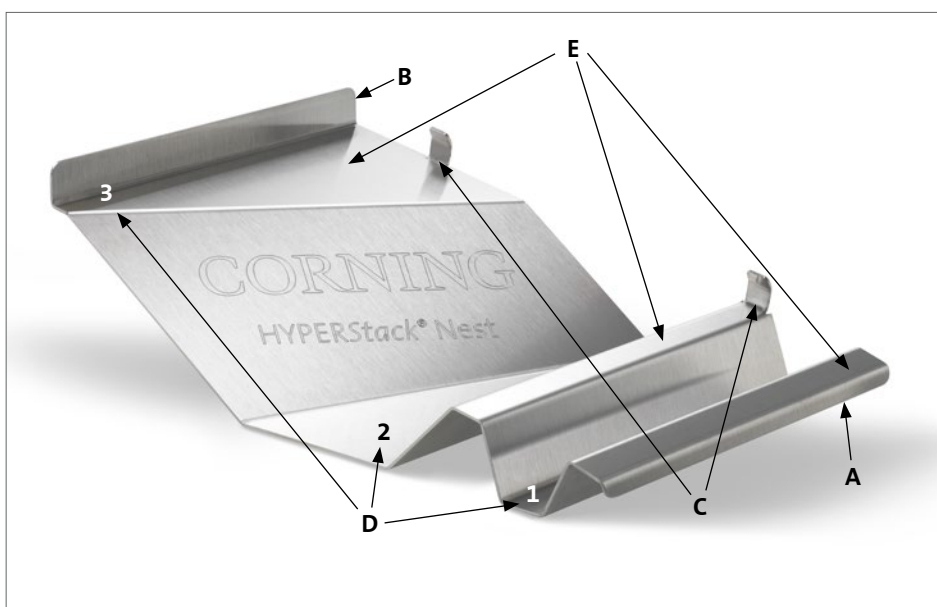


Corning® HYPERStack® Nest Accessory

CORNING

Guidelines for Use

For best results, Corning HYPERStack vessels need to be held in specific positions and at specific angles when filling, depressurizing, incubating, harvesting, and emptying. The Corning HYPERStack Nest Accessory (Cat. No. 10047) was developed to improve process control by consistently placing the vessel in the optimal positions and angles during use and to improve ergonomics by reducing multiple manipulations.



Corning HYPERStack Nest Accessory

- A. Front handle
- B. Back registration guide
- C. Registration tabs
- D. Surface planes
 - 1. Front
 - 2. Center
 - 3. Back
- E. Vessel support planes



Corning HYPERStack Vessel

- A. Stacking tray
- B. Liquid handling chambers
- C. Liquid handling tubing: 3/8" ID x 5/8" OD with female MPC coupling and cap
- D. Air handling chambers
- E. Air vent tubing: 3/8" ID x 5/8" OD with 0.2 µm air vent filter

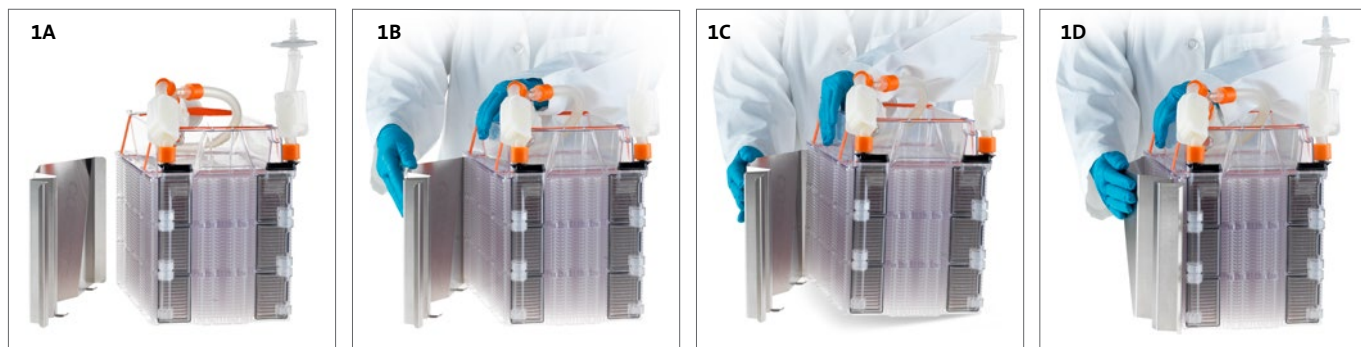
General Precautions

The HYPERStack Nest accessory was developed to assist the user with the manipulations required when working with HYPERStack vessels. Using the liquid handling or air handling manifolds of the HYPERStack vessel to grip the vessel during manipulations can lead to vessel damage. **CAUTION:** Holding on to the bottom of the HYPERStack Nest accessory during manipulation may place the hand or fingers under a pinch point and should be avoided.

Using the Corning® HYPERStack® Nest Accessory

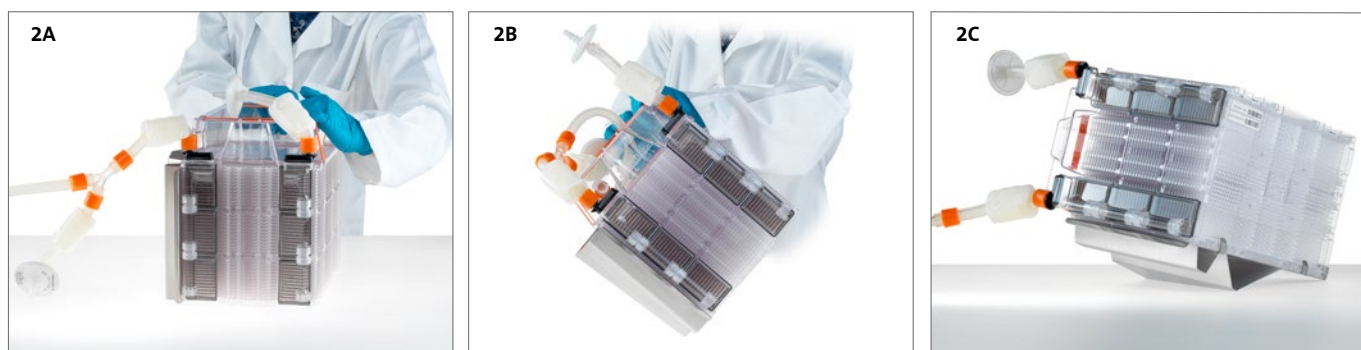
1. Loading a HYPERStack vessel on the Nest accessory

- 1.1. Place the HYPERStack Nest Accessory upright with the registration tab features flat on the work surface (Figure 1A). Align the Nest parallel to the liquid handling side of the HYPERStack vessel placing the back registration guide against the back edge of the vessel (Figure 1B) to register the Nest into position. Both registration tab features on the Nest should align with the matching indentations features on the bottom plate of the vessel.
- 1.2. Use the stacking tray on the HYPERStack vessel to tilt the long edge of the vessel facing the Nest slightly up (Figure 1C). Bring the Nest against the side of the vessel making sure that the registration tab features slide **under** the indentations on the bottom plate of the vessel.
- 1.3. Set the vessel down making sure the registration tab features are **under** the bottom plate of the HYPERStack vessel. The Nest is now securely registered to the vessel. (Figure 1D).



2. Resting the HYPERStack vessel on the Nest accessory

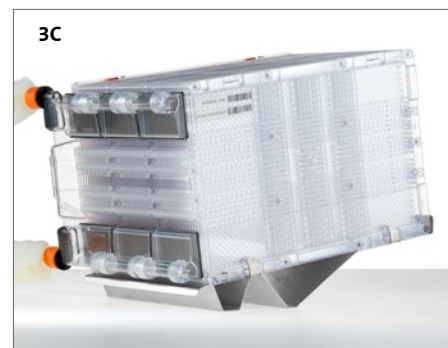
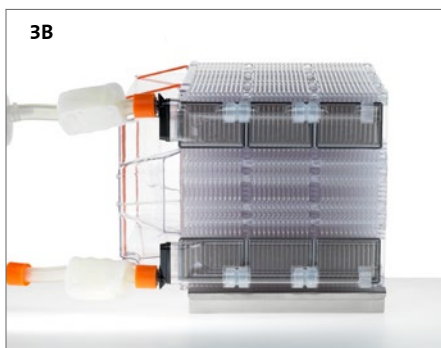
- 2.1. With the HYPERStack Nest Accessory securely registered to the HYPERStack vessel, hold the stacking tray while pivoting the vessel (Figures 2A and 2B) to the side so that the liquid handling side of the vessel is resting flat on the vessel support planes of the Nest and the center and back surface planes of the Nest are resting on the work surface (Figure 2C).



3. Initial Fill/Final Empty position

In the Initial Fill/Final Empty position the liquid handling portion of the HYPERStack vessel is parallel to the working surface while the back end is elevated. During filling, this position allows for liquid to enter the vessel and distribute equally throughout the chambers with minimal foam formation. During liquid removal, the position directs the liquid toward the front of the vessel for easy liquid removal with minimal foam formation.

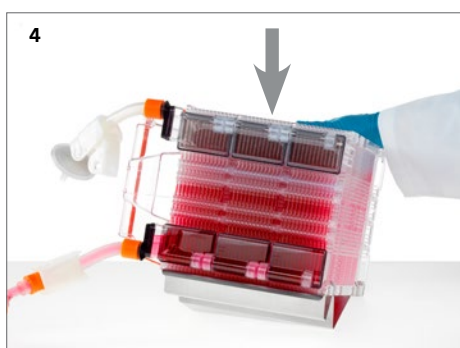
- 3.1. Register the HYPERStack Nest Accessory to the vessel, then position the vessel to rest on the Nest (Steps 1 and 2).
- 3.2. Bring the HYPERStack vessel to the Initial Fill/Final Empty position by pushing down on the front of the vessel (Figure 3A) to rock the Nest forward so that the front and center surface planes of the Nest are in contact with the work surface. This position brings the HYPERStack vessel liquid handling chambers parallel to the work surface (Figure 3B) and raises the back of the vessel 11 degrees (Figure 3C).



4. Final Fill/Initial Empty position

In the Final Fill/Initial Empty position the HYPERStack vessel is placed in a compound angle that raises the air vent filter to the highest possible point. During the final filling and emptying steps, this position allows for air to be directed towards the air vent tubing, protecting the air vent filter from getting wet.

- 4.1. For Final Fill/Initial Empty, push down on the back of the vessel (Figure 4) to rock the Nest back so that the center and back surface planes of the Nest are resting on the work surface. This position places the vessel in a compound angle position of 8 and 12 degrees (bottom to top and back to front, respectively) to protect the air vent filter by placing it at the highest point.



5. Incubation/Depressurization position

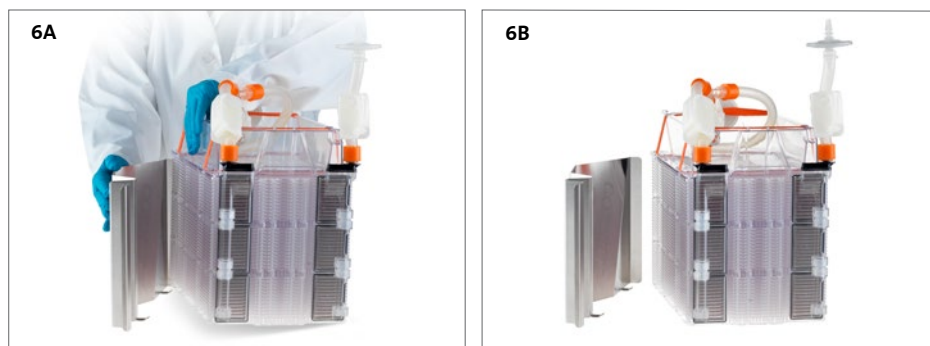
The depressurization step is used to alleviate any residual pressure introduced into the vessel during filling and to clear liquid from the liquid handling tubing.

- 5.1. Use the stacking tray on the HYPERStack vessel (Figure 5A or 5B) to rotate the HYPERStack vessel from the Final Fill/Initial Empty position to the Incubation/Depressurization position. In this position, the HYPERStack vessel is resting flat on the bottom plate with tubing lines at the highest points (Figure 5C).



6. Removing the Nest accessory

- 6.1. Use the stacking tray to tilt the edge of the HYPERStack vessel with the Nest Accessory slightly up (Figure 6A). Slide the Nest away so that the registration tab features are no longer under the bottom plate of the vessel (Figure 6B), then set the vessel back on the work surface. The Nest Accessory can be stored away.



Cleaning and Storage

The Corning® HYPERStack® Nest Accessory was designed for easy cleaning and storage.

- ▶ The stainless steel material can be cleaned in the same manner as other stainless steel material used in the lab or clean room environment using isopropyl alcohol wipes, ethanol wipes, or vaporized hydrogen peroxide (anti-fogging).
- ▶ Multiple Nests can be stacked or lined up for storage. Twelve stacked Nests occupy roughly the same cubic footprint as a 36-layer HYPERStack vessel.

For more specific information on claims, visit www.corning.com/certificates.

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