

CoolRack[®] L and CoolRack[®] LV Instructions for Use



Introduction

CoolRack L and CoolRack LV are insulated thermo-conductive modules designed to be placed in direct contact with a cooling source to keep large tubes cold without direct contact to the cooling source. Cooling sources may include ice, ice baths, or Azenta's ice-free CoolBox[™] MP or CoolBox[™] XT cooling systems.

The modules are comprised of two components: an integrated thermo-conductive base and tube wells (Fig. 2) and an insulative external housing (Fig. 3). The thermo-conductive base and tube wells is made of an alloy that rapidly adapts to the cooling source it is placed on and the alloy surrounds each tube to ensure uniform and consistent cooling to all samples. The exterior housing is made of a high-density polyethylene material that is insulative and protects the tube wells from ambient temperature. The exterior is also non-absorbent and comfortable to the touch when cold. The external housing slides over the tube wells and secures to the base with magnets (Fig 4). The design provides a light-weight solution for consistent thermo-conductive cooling of large tubes without direct contact with ice.

Figure 1



Figure 2: Integrated thermo-conductive base and tube wells



Figure 3: Insulative external housing



Figure 4: Insulative exterior protects thermo-conductive base and tube wells from ambient exposure



Cooling with CoolRack L and CoolRack LV

CoolRack L and CoolRack LV modules are for use on ice or for placement in an ice-free CoolBox MP or CoolBox XT system and under typical laboratory conditions, the modules will reach <math><4^{\circ}\text{C}</math> within two minutes of placing the base on these temperature sources. The modules will continue to decrease in temperature until reaching approximately

The base of the CoolRack L and CoolRack LV modules features SBS-compliant dimensions and the modules may be placed onto robotic instruments (if height of module is allowed on the instrument) for brief cooling of sample tubes while processing automatically.

CoolRack® L and CoolRack® LV Instructions for Use



Product Description

CoolRack® L module

- Item number: BCS-232
- For use with up to twelve 15ml sample tubes (such as 15ml centrifuge tubes)
- Tube well depth: 4.25 in. / 10.8 cm
- Tube well diameter: 0.65 in / 1.7 cm
- SBS-compliant base dimensions: 5.03 x 3.37 x 0.66 in. / 12.78 x 8.56 x 1.68 cm (L x W x H)

CoolRack® LV module

- Item number: BCS-235
- For use with up to twelve 16 mm blood tubes (such as Vacutainer® tubes and others)*
- Tube well depth: 3.35 in. / 8.50 cm
- Tube well diameter: 0.65 in / 1.7 cm
- SBS-compliant base dimensions: 5.03 x 3.37 in. / 12.78 x 8.56 cm (L x W)

Using Ice as Cooling Source

Fill an appropriately sized ice bucket half full with ice and place thermo-conductive CoolRack L or LV module directly on top of the ice. The module will become below 4°C within two minutes and continue to equilibrate to approximately 1-2°C. The temperature of the module will remain constant and uniform across all wells as long as it remains in contact with solid ice or water that contains solid ice pieces. It is not necessary to pre-cool module prior to placing on ice, however, pre-cooling the module prior to placing it on ice will allow a more immediate start. Place sample tubes into the tube wells to keep them cool. Replenish ice as needed for longer cooling duration.

Using CoolBox XT or CoolBox MP as an Ice-Free Cooling Source

Follow the instructions for CoolBox XT or CoolBox MP and pre-freeze the cooling core/cartridge as directed. When core/cartridge is ready for use, assemble the CoolBox cooling system as directed. Place the CoolRack module inside the CoolBox chamber and allow one to two minutes for it to reach <4°C. Place samples into the module tube wells to keep them cool. CoolRack L and CoolRack LV are insulated by the exterior HDPE housing, so it is not necessary to place a lid on the CoolBox cooling system.

CoolRack[®] L and CoolRack[®] LV

Instructions for Use



Care and Cleaning

CoolRack L and CoolRack LV are constructed from a closed-cell high-density polyethylene shell on the exterior and a solid thermo-conductive alloy base and tube wells. The external insulation may be removed from the base and tube wells by inserting a cylindrical tool (such as an empty tube) into one of the wells (Fig. 5) and pushing the base away from the exterior housing (Fig. 6). Once the two pieces are separated, the thermoconductive base and tube wells may be autoclaved or cleaned with a bleach or alcohol solution, or high heat sterilized up to 250°C. The high-density polyethylene shell may be cleaned with a bleach or alcohol solution, or cleaned with most common laboratory detergents.

Figure 5: Insert a tall cylindrical object into an empty tube well



Figure 6: Push the cylindrical object down while pulling the external housing from the base to release the magnets. Pull the housing off the tube wells.

