

# NUHOMS® MP197HB Transport Cask

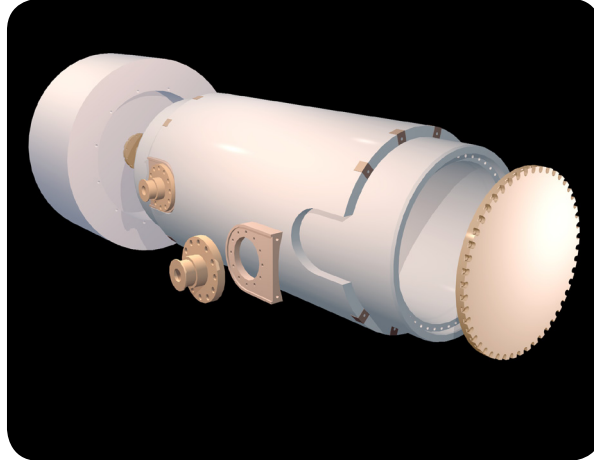
The NUHOMS® MP197HB is used for the offsite transportation of up to 61 or 69 intact or damaged BWR fuel assemblies depending upon the canister type used as a payload. Similarly, it can transport up to 24, 32 or 37 intact or damaged PWR fuel assemblies depending upon the canister type used as a payload. It is a transport cask consisting of a containment boundary, structural shell, gamma shielding material, and solid neutron shield. The containment boundary consists of a cylindrical shell, bottom end (closure) plate with a ram access penetration, top end forging ring, bottom and top cover plates (lids) with associated seals and bolts, and vent and drain port closure bolts and seals.

Sets of removable upper and lower trunnions, bolted to the outer shell of the cask provide support, lifting, and rotation capability between horizontal and vertical orientations for the NUHOMS® MP197HB cask. Impact limiters consisting of balsa and redwood, encased in stainless steel shells, are attached to each end of the NUHOMS® MP197HB cask during shipment. A thermal shield is provided between the impact limiter and the cask to minimize heat transfer to impact limiters. Each impact limiter is held in place by twelve (12) attachment bolts. A personnel barrier is mounted to the transport frame to prevent unauthorized access to the cask body.

The NUHOMS® MP197HB packaging is transported in the horizontal orientation, on a specially designed shipping frame.

The package is approved for exclusive use by rail, truck or marine transport. The package during transport is secured to the transportation skid with a cask shear key and by saddles and tie-down straps.

The used fuel payload is shipped dry in a helium atmosphere. Both the transport cask cavity and the DSC cavity are filled with helium. The heat generated by the used fuel assemblies is rejected to the surrounding air by conduction, convection and radiation. The cask is designed to carry payloads with a maximum of 32kW heat load. No heat transfer fins are required if the cask is operated under the requirements of 10CFR71. Fins may be required for heat loads greater than 26kW under some international transport requirements.



## More About Transnuclear, Inc.

For over 40 years, Transnuclear has provided the nuclear industry with premier dry storage and transportation products and services.

In the U.S. today, more used fuel is stored in Transnuclear systems than all other systems combined. By the middle of 2011, more than 700 casks housed over 25,000 assemblies at 31 sites. Customers include utilities, reactor operators and the U.S. government.

In the transportation arena, AREVA operates the largest fleet of transportation casks in the world. AREVA organizes more than 3,000 multi-model shipments of nuclear material each year; more than 70 shipments are in progress at any given time.

Transnuclear's products are marked by the highest standard of safety, uncompromising commitment to quality, and operational dependability. The company is a wholly-owned subsidiary of AREVA Inc., a member of the AREVA Group, the leading worldwide nuclear energy products and services supplier.

## Technical Features

### Payload:

Up to 61 or 69 BWR Fuel Assemblies  
Up to 24, 32 or 37 PWR Fuel Assemblies depending upon canister type  
Intact or Damaged BWR Fuel with or w/o channels  
Intact or Damaged PWR Fuel with or w/o control components  
Fuel Design: 7x7, 8x8, 9x9, or 10x10 BWR Fuel Assembly or 14x14, 15x15, 16x16, or 17x17 PWR Fuel Assembly

### Materials of Construction:

Stainless Steel Shell and Cover Plates  
Gamma Shielding is Stainless Steel and Lead  
Neutron Shielding is Aluminum-Encased Resin  
Impact Limiters are Balsa & Redwood, Encased in Stainless Steel Shells  
Carbon Steel Closure Bolts  
Option of Outer Fins for High Decay Heat Payload Depending Upon the Regulation

### Physical Data:

Outside Diameter is 126 inches w/impact limiter  
Outside Diameter is 97.75 inches w/o impact limiter  
Outside Length is 271.25 inches w/impact limiters  
Cask Body Diameter is 97.75 inches without fins and 104.25 inches with fins  
Cavity Length is 199.25 inches  
Cavity Diameter is 70.5 inches and 68 inches with internal sleeve  
Weight, Empty is 94.7 tons w/impact limiters  
Weight, Loaded is 152 tons w/impact limiters

### Fuel Parameters:

Maximum Burnup up to 62,500MWD/MTU  
Min Cooling Time Depends Upon the Payload  
Maximum Heat Load is 32 kW  
Max Heat Load per Assembly Depends Upon the Payload

### Design Parameters

Required Crane Capacity – 141 Tons inside the fuel handling area with the heaviest payload. Options are available to minimize the weight.

Maximum Drop Height - Meets all the normal and accident condition design loads per 10CFR71 requirements.

## TRANSNUCLEAR, Inc.

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