270 NRC with Lift/Transport

Presented by:

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270 NRC Canister with Lift/Transport

1. System Overall
2. 270 NRC Canister
3. Lift/Transport
4. Conclusion

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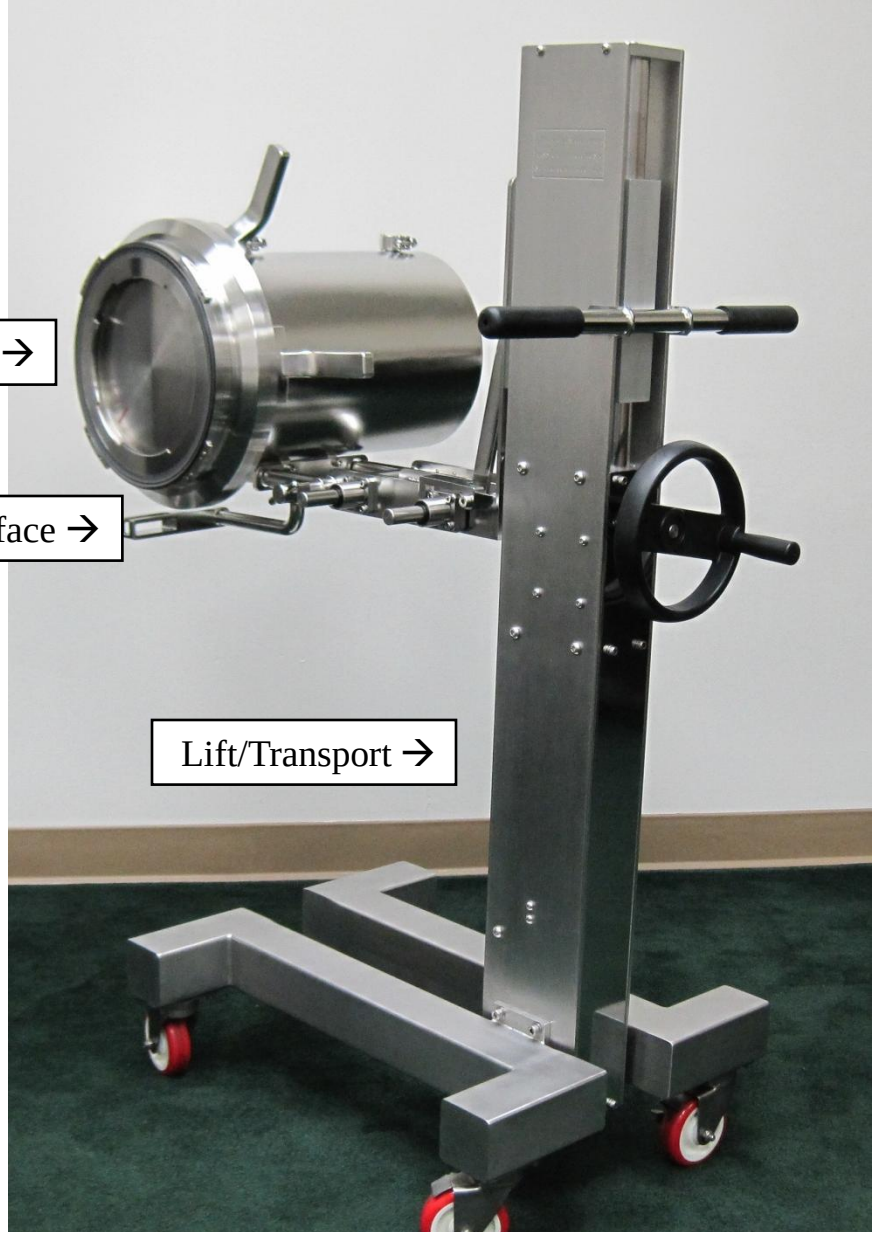

270 NRC Canister with Lift/Transport

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Overall System Description

The NRC Canister allows the sterile transport and transfer of internal components without the risk of damage from handling.

The Lift/Transport solidly supports and positions the NRC Canister during transport and docking operations.

Together as a system, the two components provide the only truly risk-free, state-of-art handling option available on the market.

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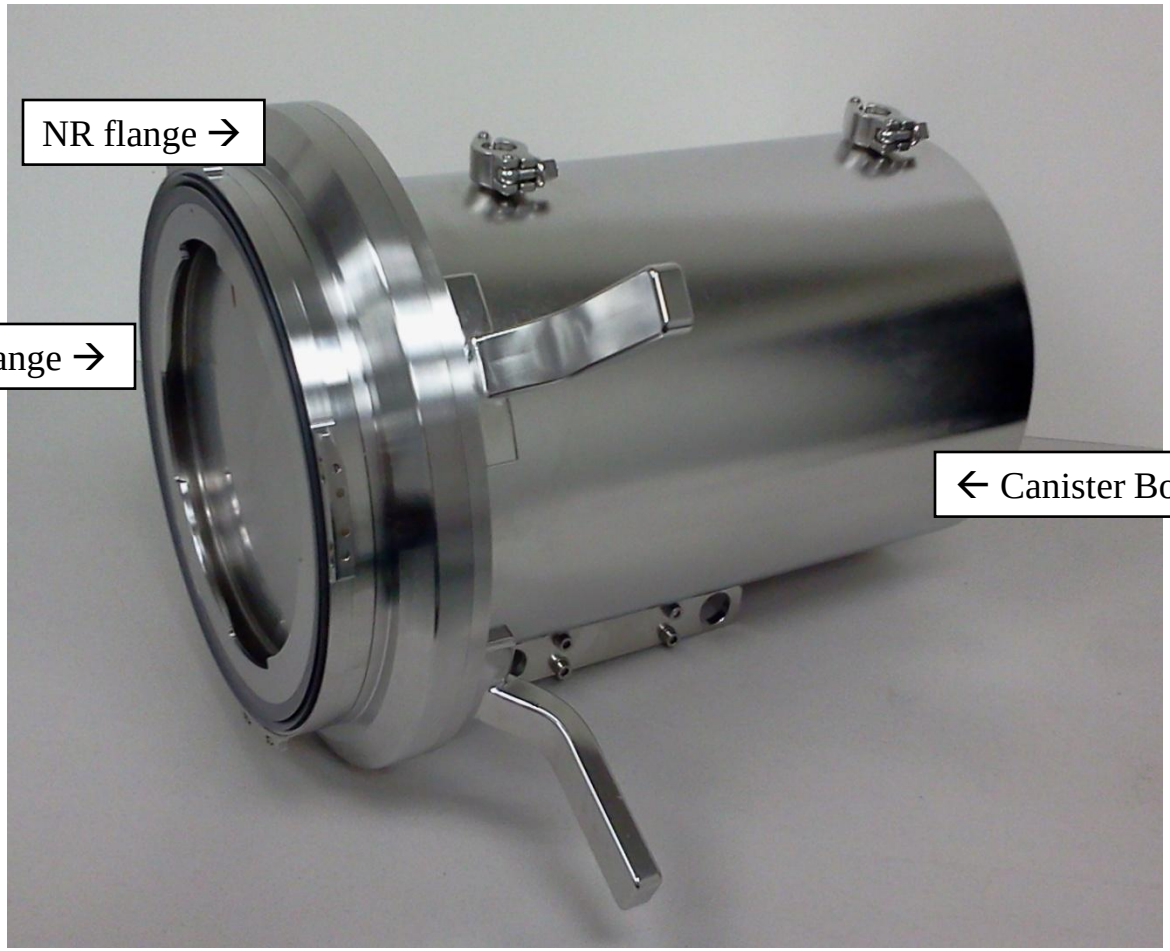

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270 NRC Canister

The 270 NRC Canister is composed of the canister body, the NR Flange onto which the La Calhene beta flange is attached and an optional internal shuttle mechanism with custom tray.

The NR Flange is DDP's proprietary rotating flange that permits rotation of the beta flange relative to the canister body while maintaining a leak tight connection between the two. The beta flange is a standard 270 La Calhene stainless steel flange.

The internal shuttle mechanism attaches to the internal side wall of the canister body and supports a perforated tray designed specifically for the application.

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270 NRC Features

- 270 nominal port size
- Dynamic Seal and bearing system permit rotation of beta flange relative to the canister body
- Turning handles are used during the docking process and require low turning force
- Sealing interface to La Calhene's standard beta flange
- Custom tray and shuttle (as required by the application)
- Standard tri-clamp connections (as required by the application)
- Stainless Steel construction
- Compatible with VHP decontamination
- Leak tight: Ammonia leak test at 250 pascal internal pressure
- Features for interface with material handling system(s)

NRC Canister Docking Schematic

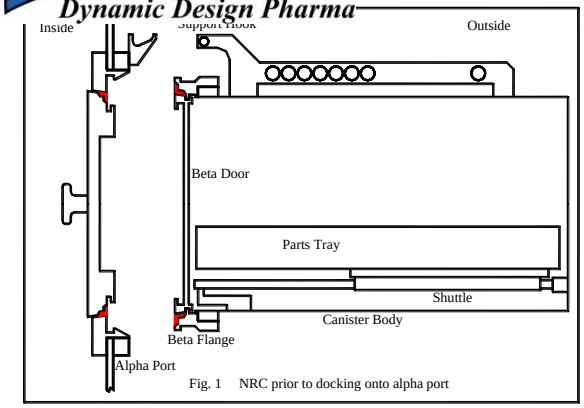

Fig. 1 NRC prior to docking onto alpha port

NRC ready to dock onto RTP port

- The NRC is moved into proximity to the alpha flange.
- The support hook engages the mating cradle of the RTP port.
- The operator does not have to support the NRC's weight during docking.

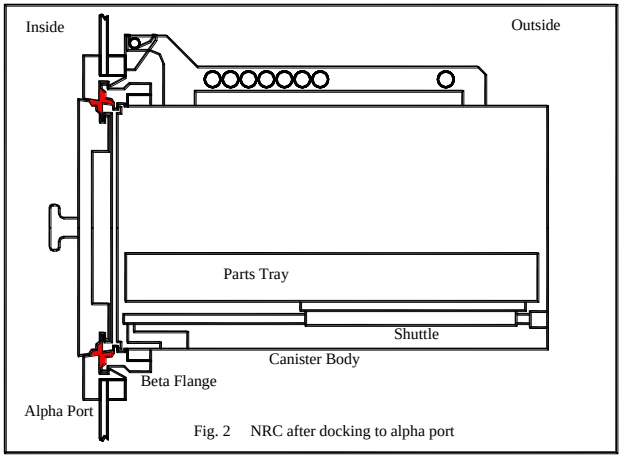

Fig. 2 NRC after docking to alpha port

NRC is docked to the RTP port

- Once the alpha and beta flanges are placed into contact with each other, the beta flange is rotated to complete the docking process while the canister body does not rotate, permitting the internal components to remain stationary.

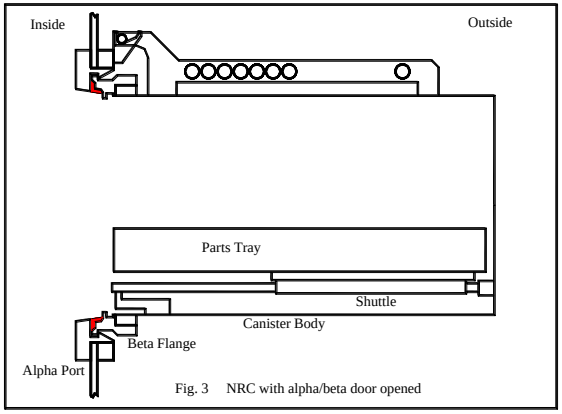

Fig. 3 NRC with alpha/beta door opened

Alpha/beta door is opened

- Once the docking process is completed, the alpha door is opened from inside the isolator.
- The beta door is attached to the alpha door as it is swung into the isolator.
- The operator has access to the internal volume of the NRC.

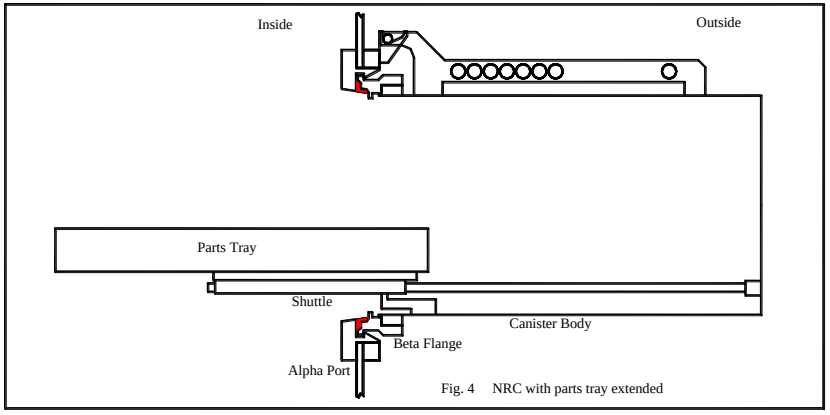

Fig. 4 NRC with parts tray extended

Access to components inside

- The components tray is pulled out of the NRC body, it is supported at all times by the NRC's internal shuttle.
- The operator has safe access to the parts held in the tray.

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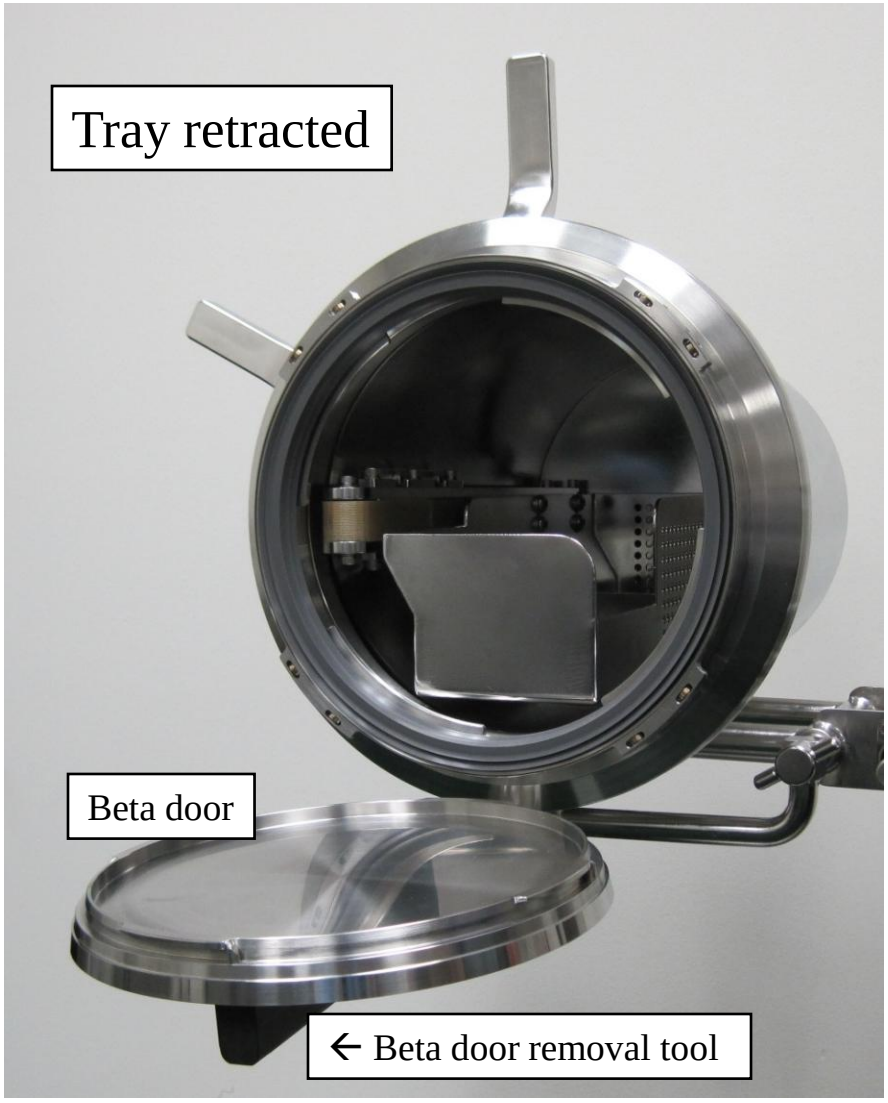
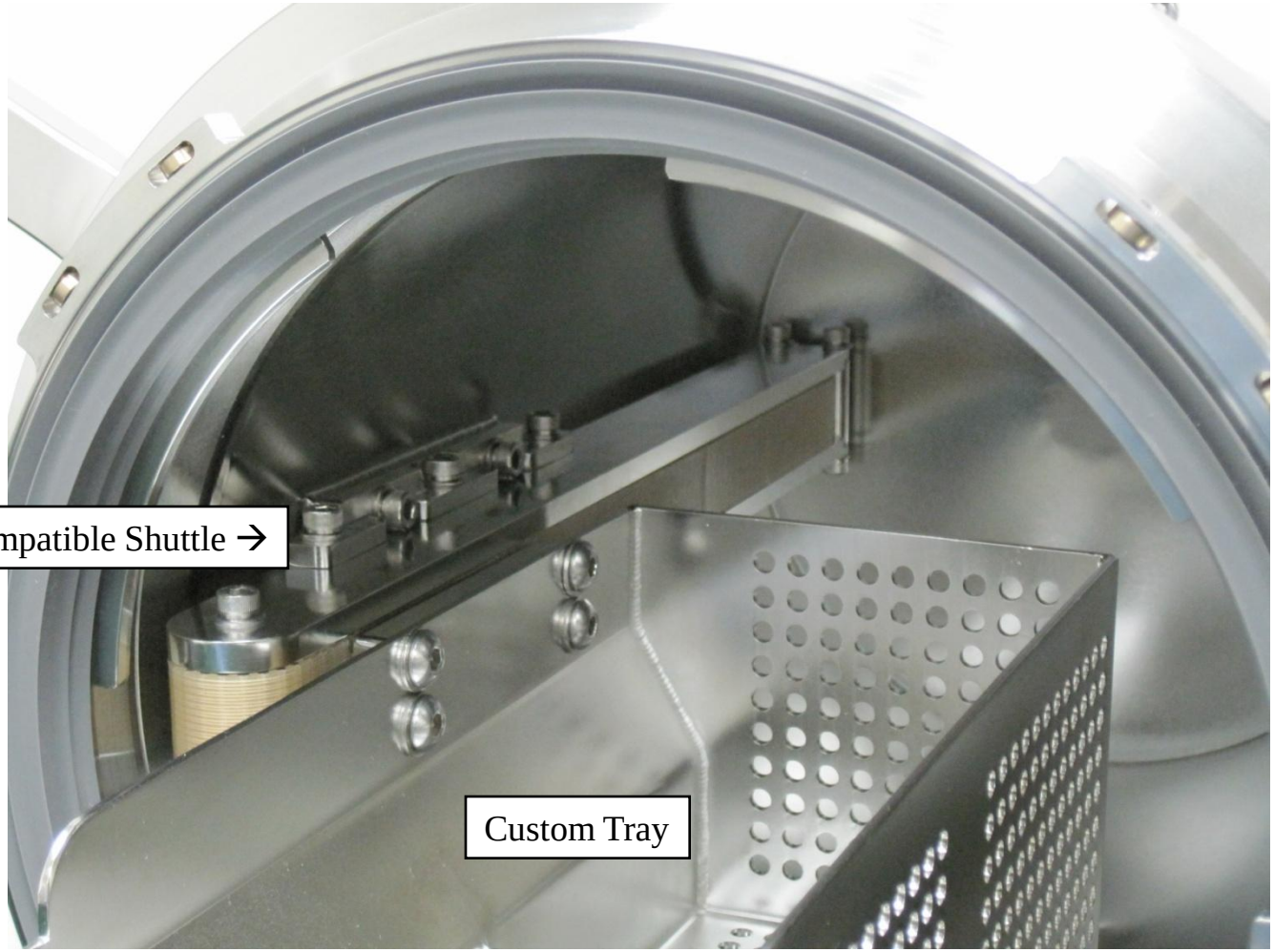


Custom Tray inside the 270 NRC



Custom Tray and Shuttle in 270 NRC

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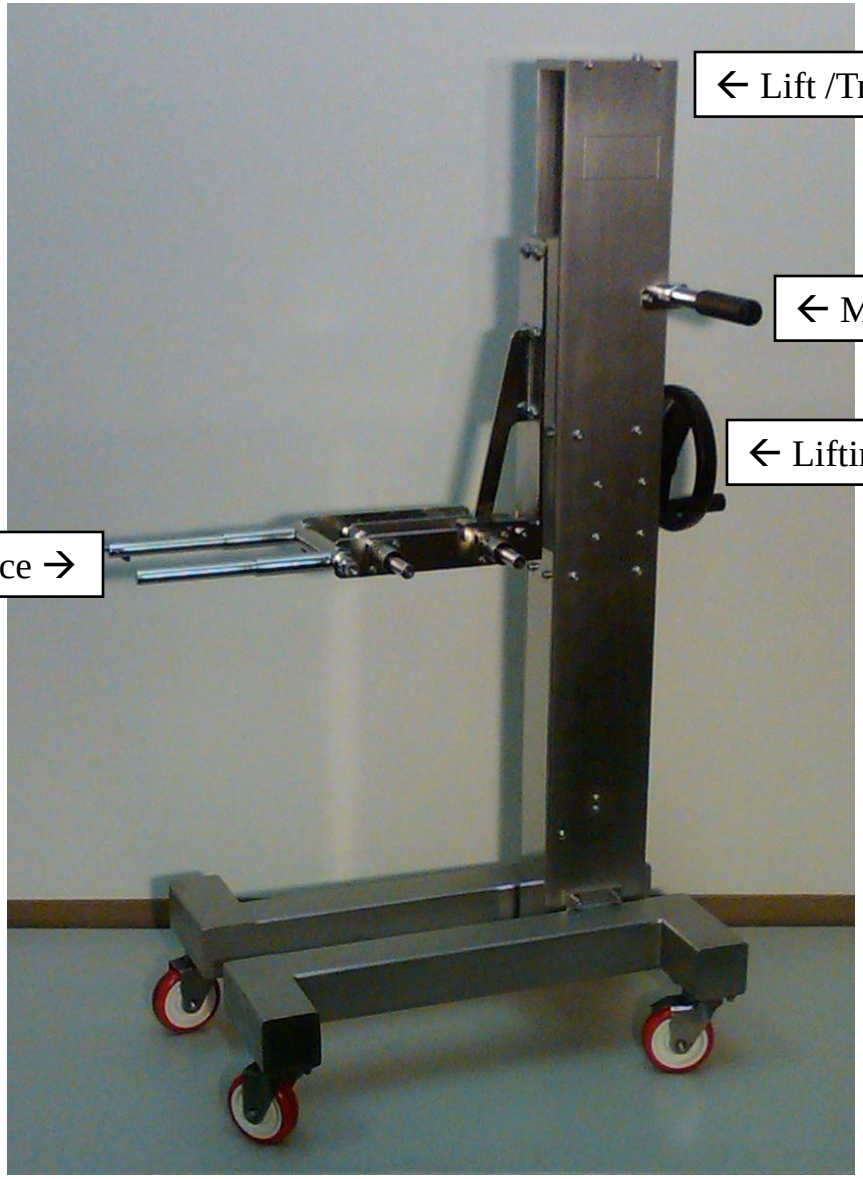

Lift/Transport with NRC Interface

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Lift/Transport System

The Lift/Transport mechanism includes a vertical drive system that, via a turning handle, permits precise vertical positioning of the NRC canister during the docking process.

The Lift/Transport includes a welded interface structure that supports the NRC Canister in position during transport and docking to the alpha flange. This structure includes a free movement that facilitates the docking action of the NRC canister to the RTP port.

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Lift/Transport Features

- Polyurethane non-marking casters
- Ergonomically located maneuvering handle
- Manually operated vertical drive system
- NRC separation lock (manually released)
- Horizontally floating NRC canister interface

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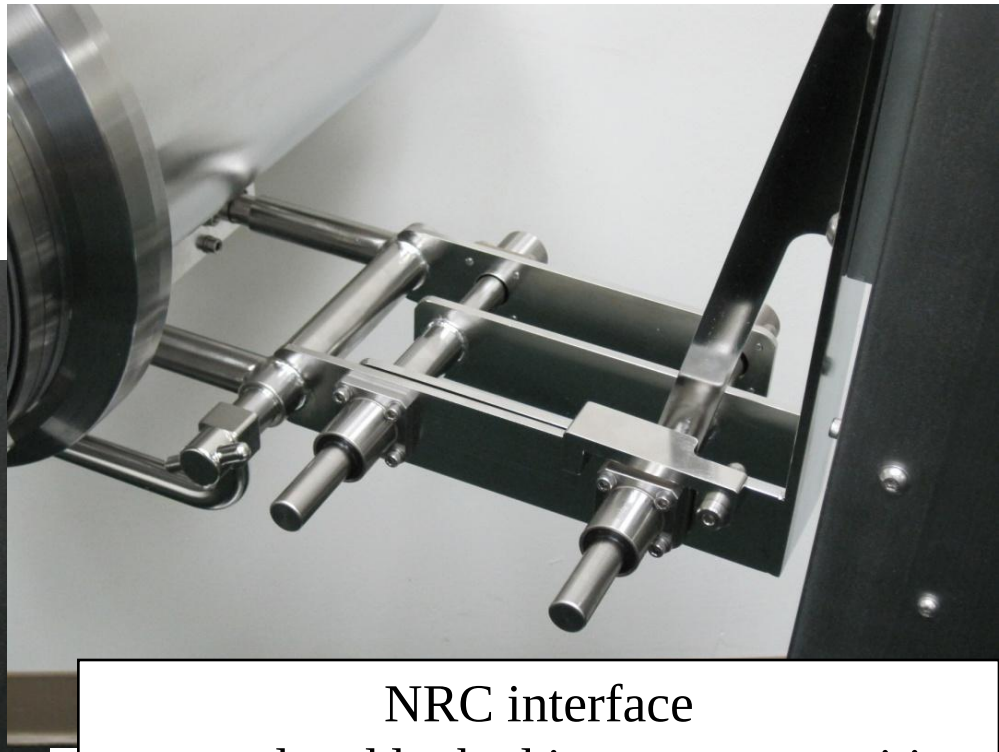
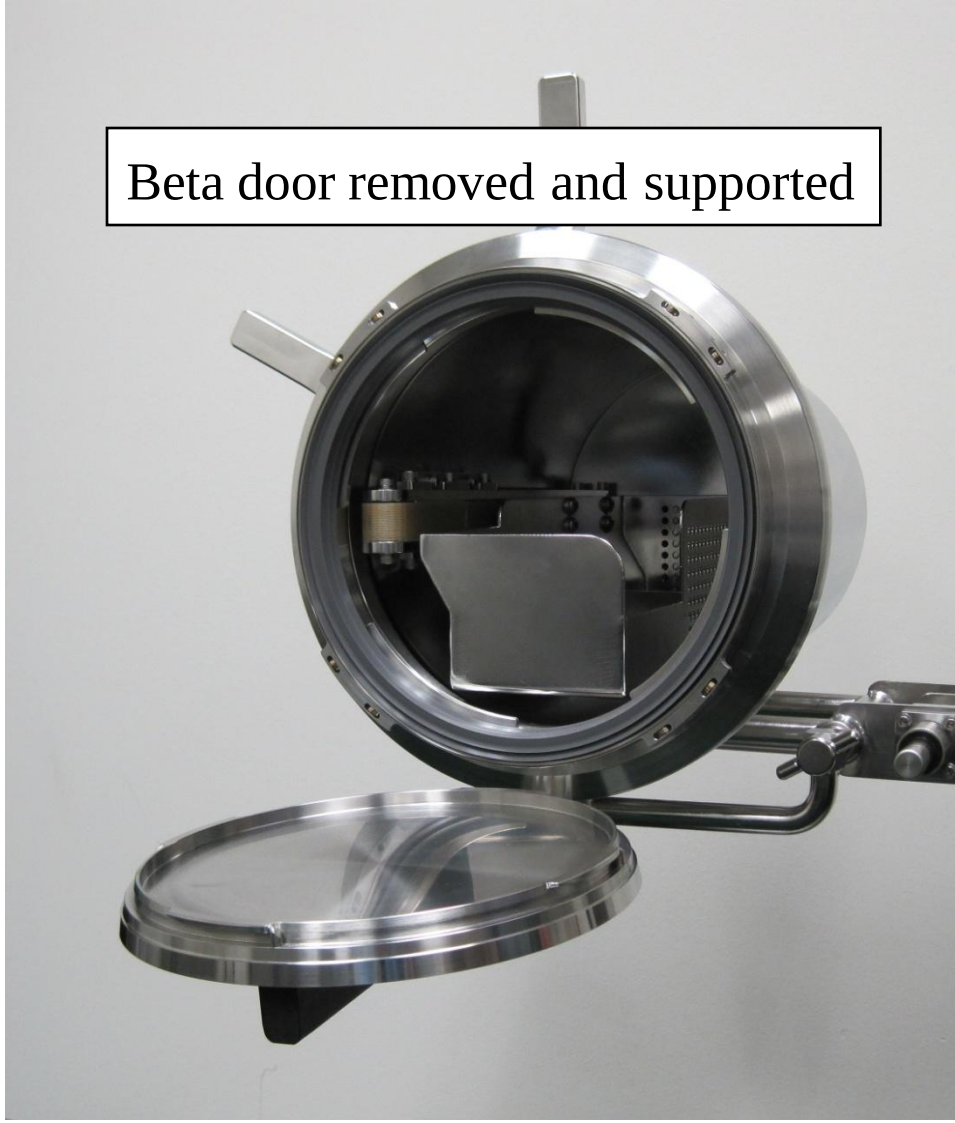
NRC interface
extended in docking position



NRC interface
retracted and locked in transport position

Lift/Transport to NRC Canister interface

Beta Door Removal Tool



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Conclusion

1. The NRC Canister permits the docking process to take place without rotation of the canister and therefore without tumbling of the components inside the canister
2. The use of the Lift/Transport system to support and position the NRC Canister yields risk free handling of the components inside the canister during the transport and docking processes
3. The system creates the safest conditions for the product and operator during handling and transfer of the components inside the canister

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Thank You

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