Two Example Airlocks Of Different Sizes:

Shuttle Orbiter & HAL Scientific

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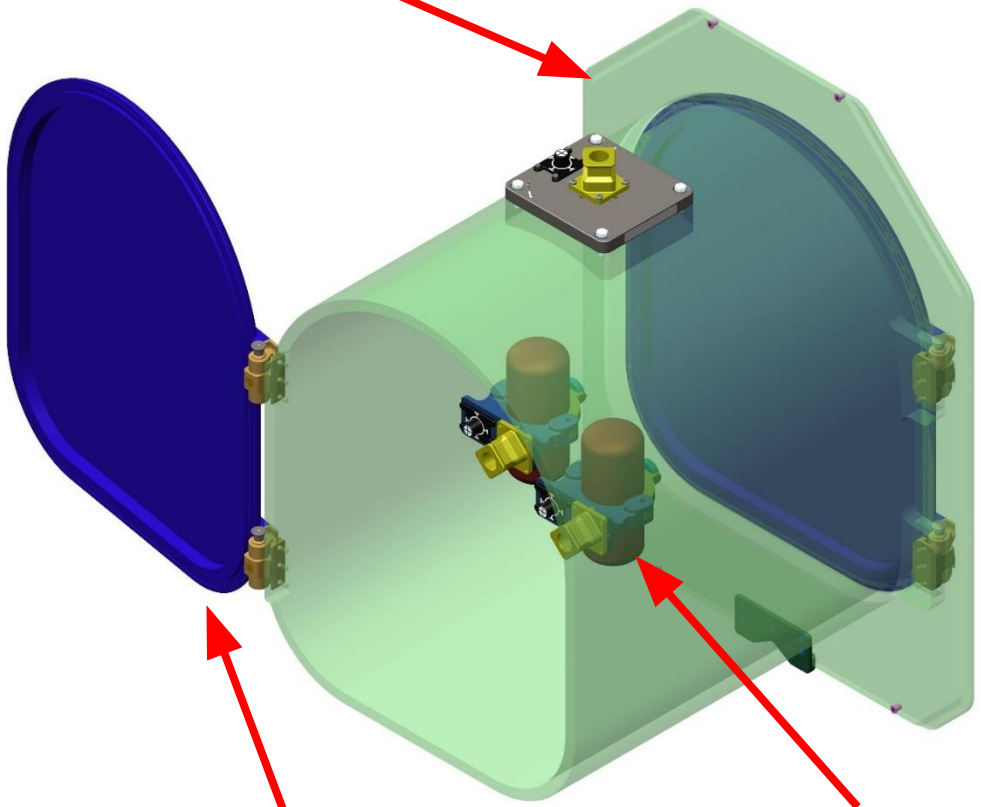
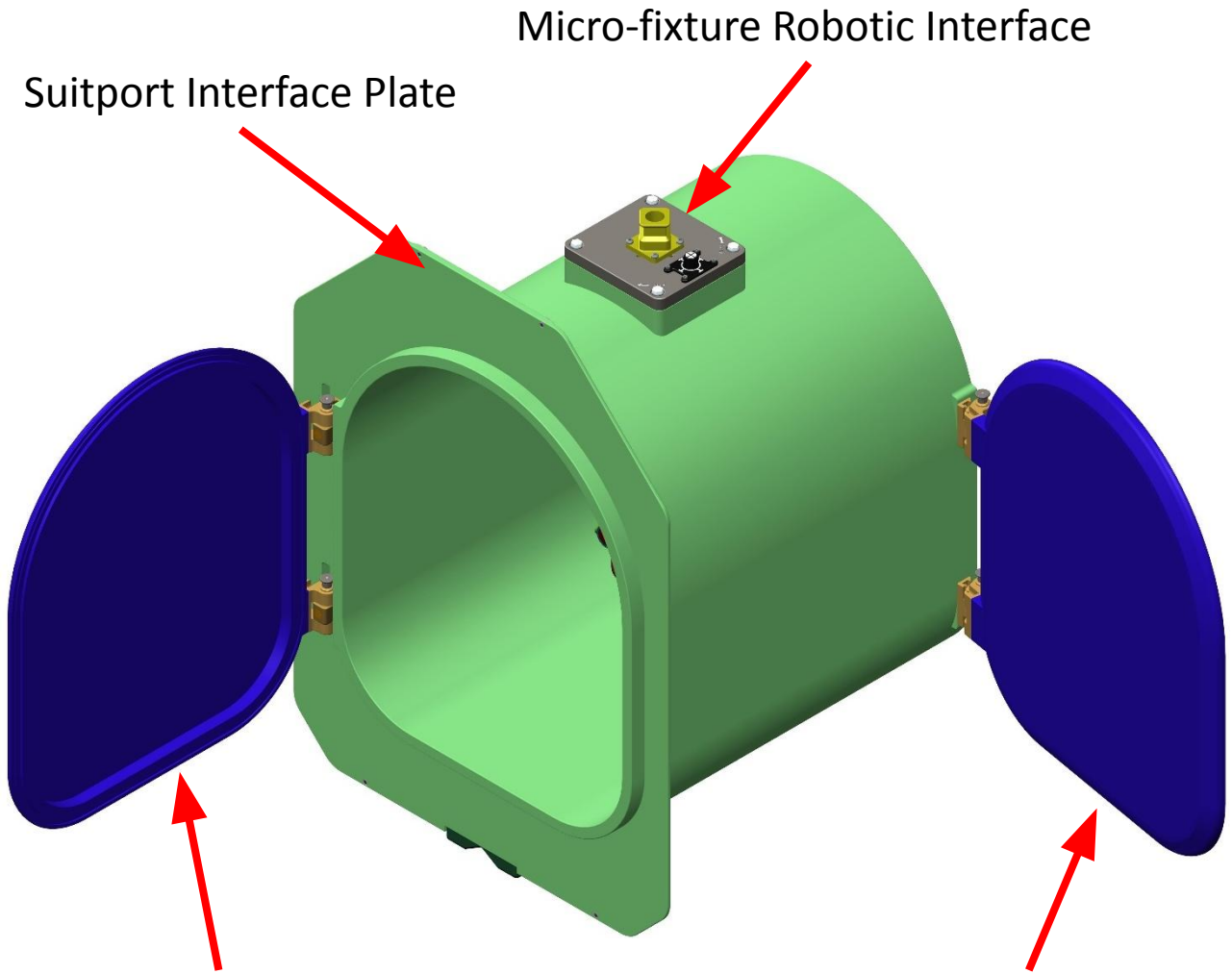
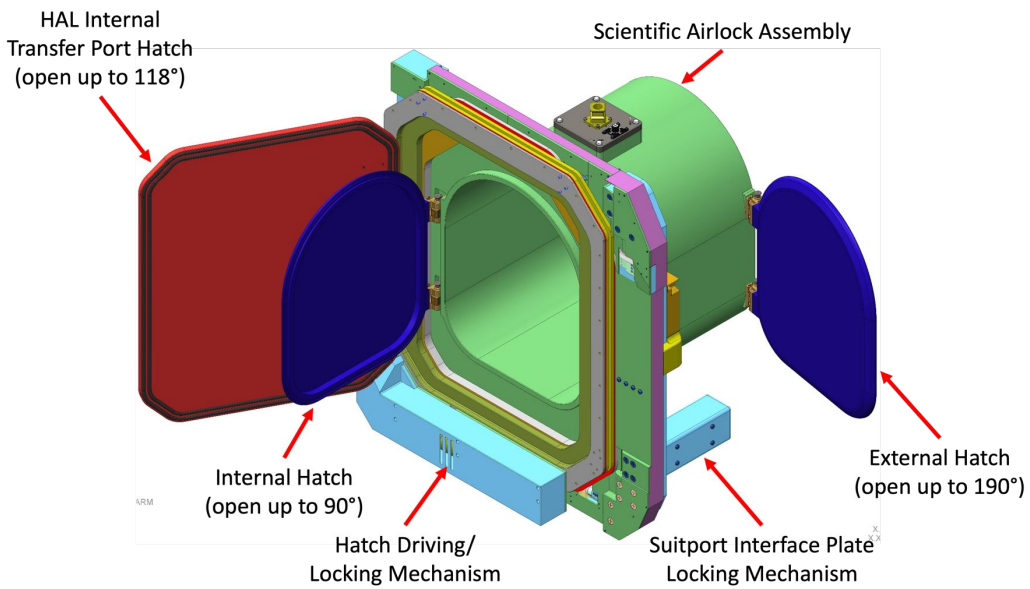
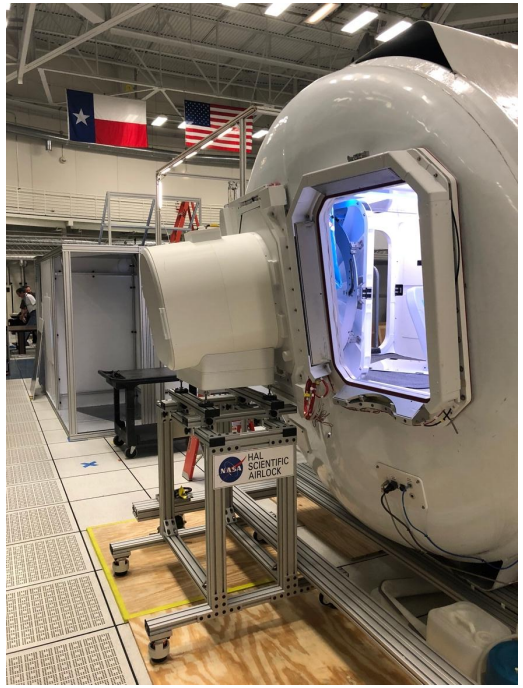
HAL Scientific Airlock

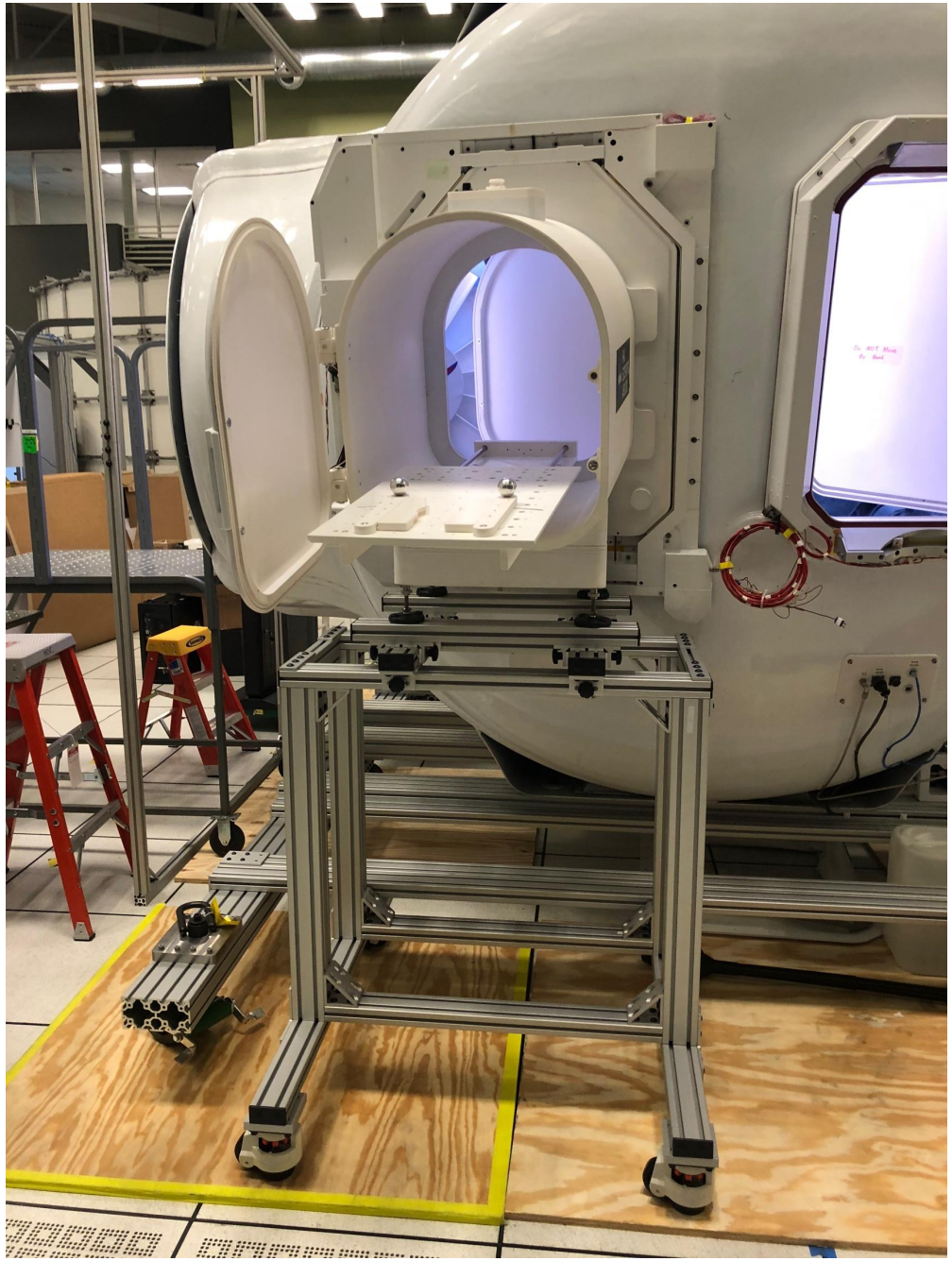


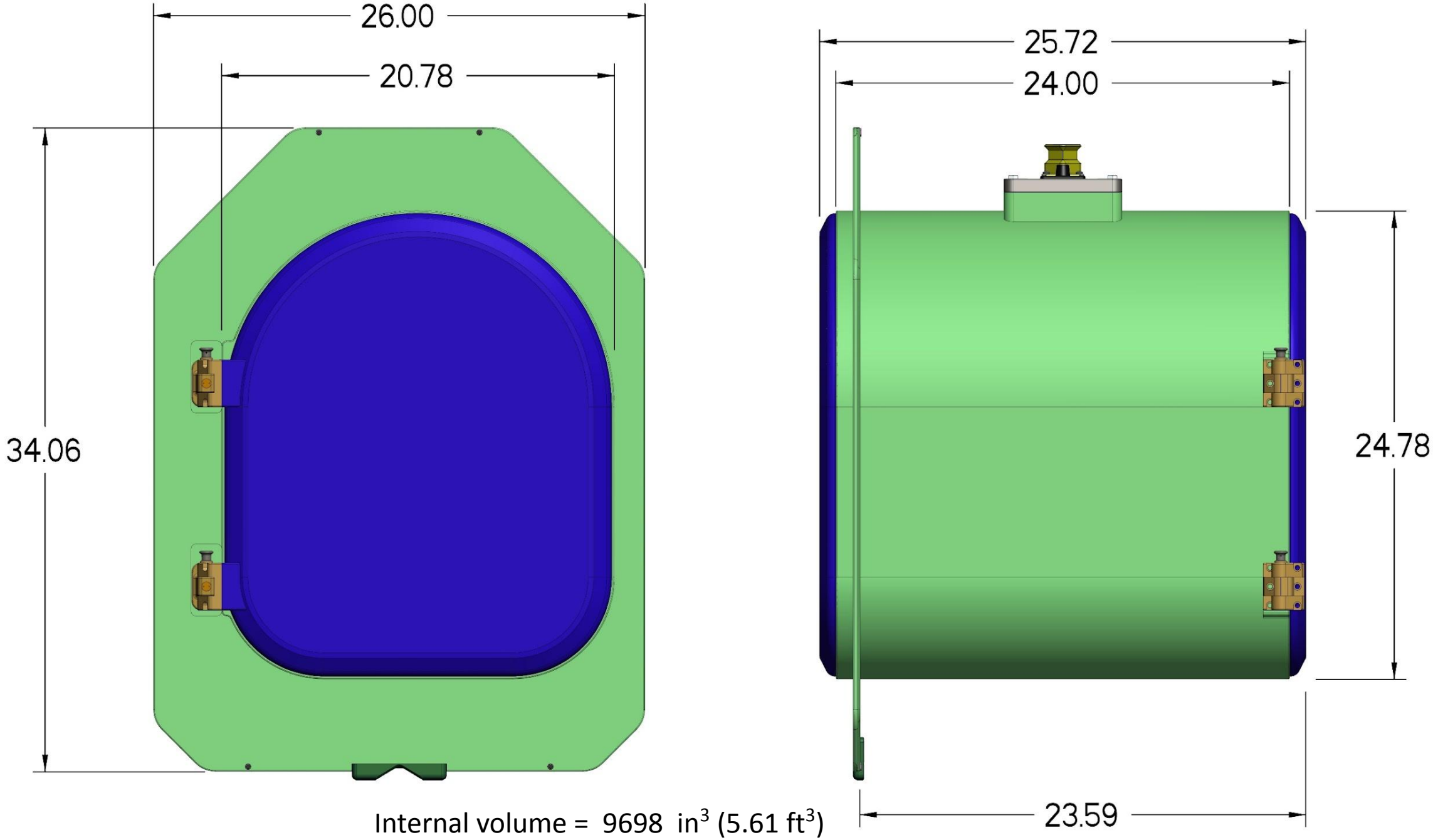


Note: HAL Scientific Airlock Suitport Interface Plate (SIP) and hatches are based on suit port rear entry hatch. External hatch is electrically driven.


HAL Internal
Transfer Port Hatch
(open up to 118°)
Scientific Airlock Assembly
Internal Hatch
(open up to 90°)
Hatch Driving/
Locking Mechanism
Suitport Interface Plate
Locking Mechanism
External Hatch
(open up to 190°)

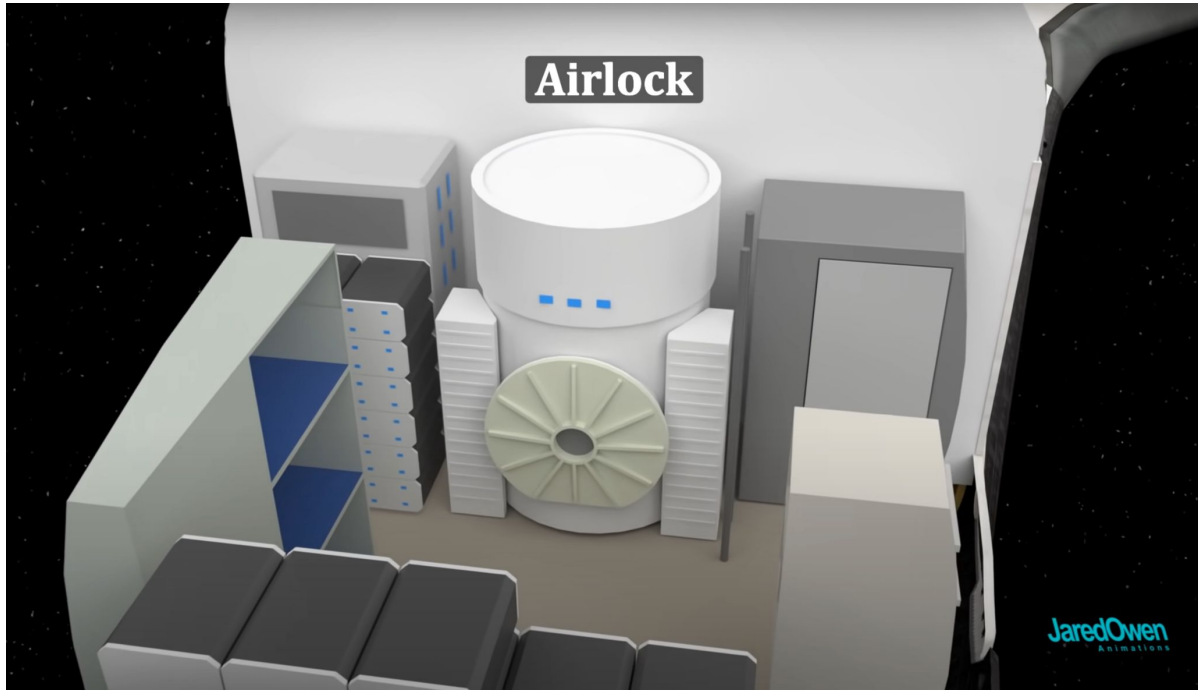

NASA
HAL
SCIENTIFIC
AIRLOCK

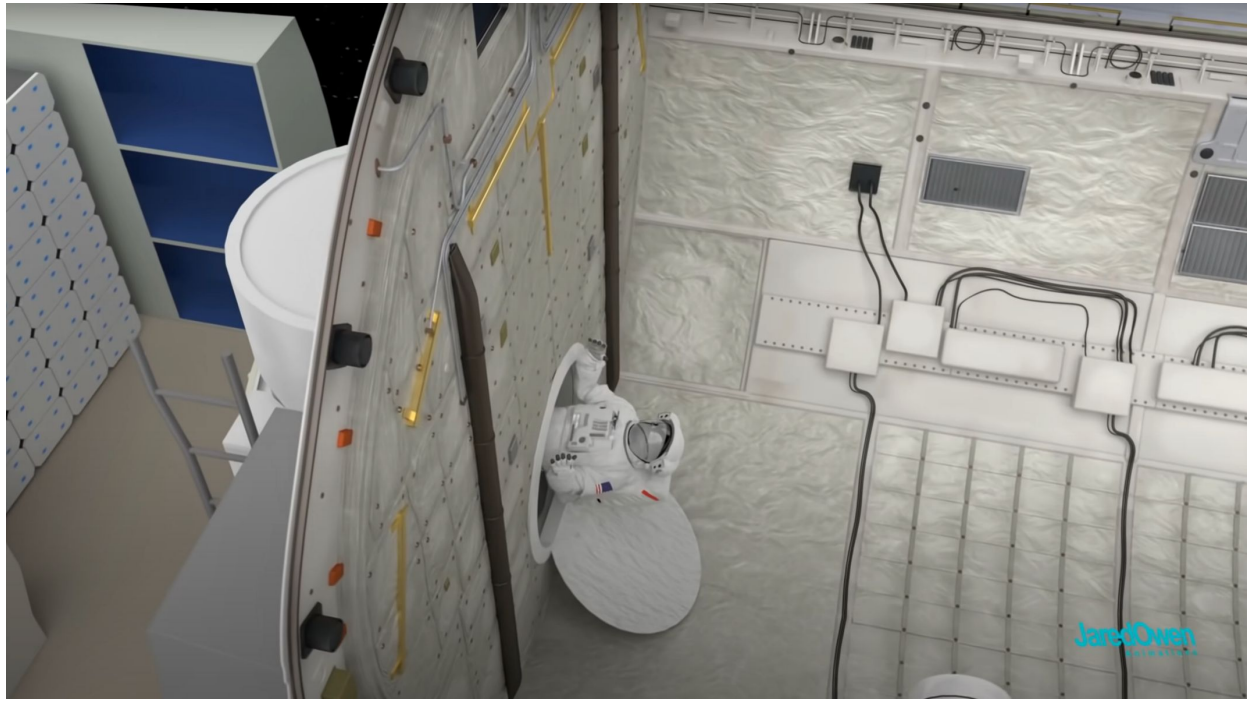




Internal volume = 9698 in^3 (5.61 ft^3)

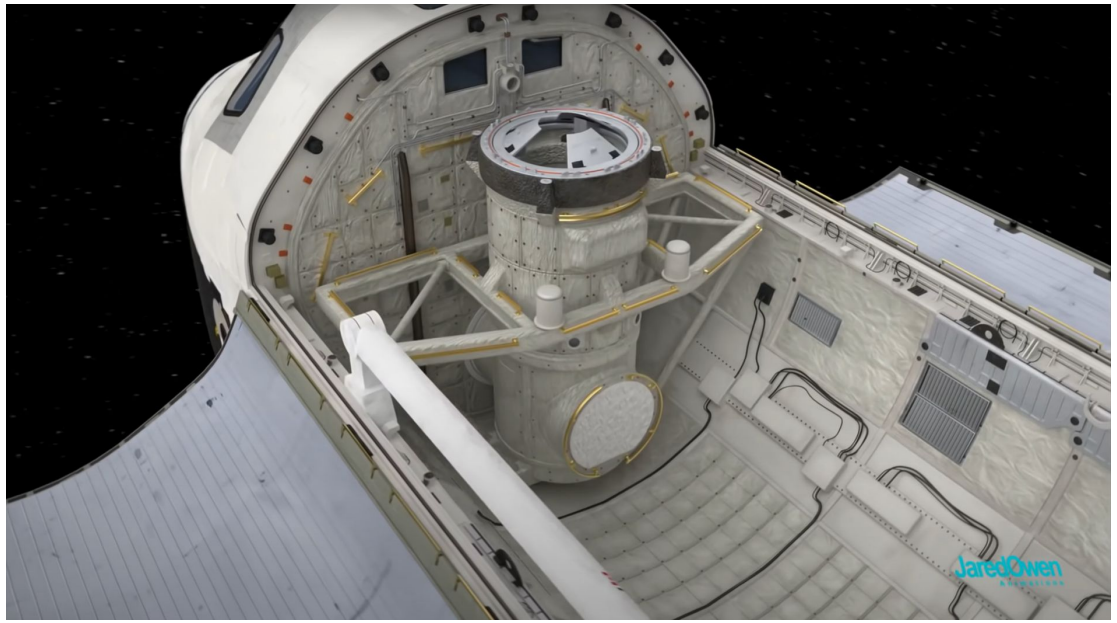
Space Shuttle (Orbiter) Original Airlock Location: Mid Deck, Crew Compartment

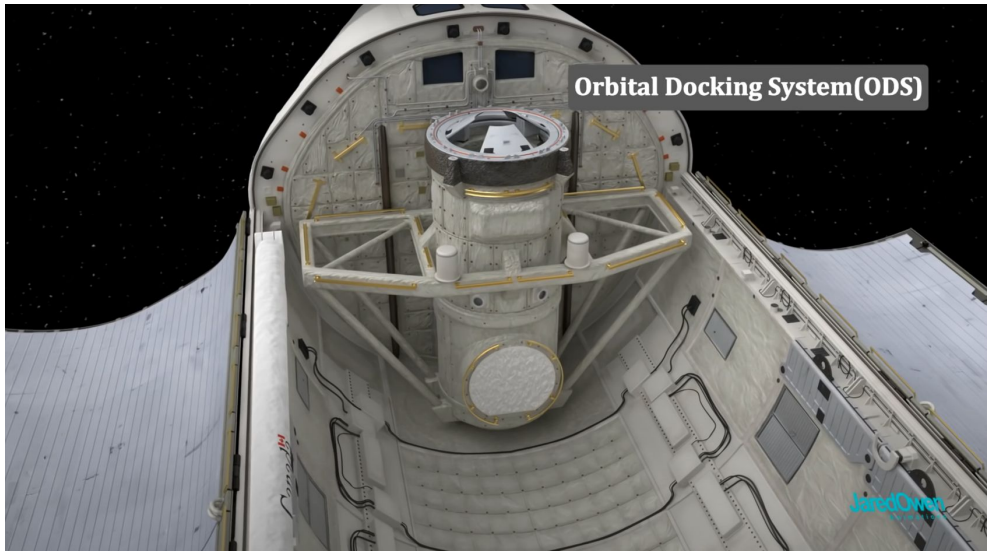


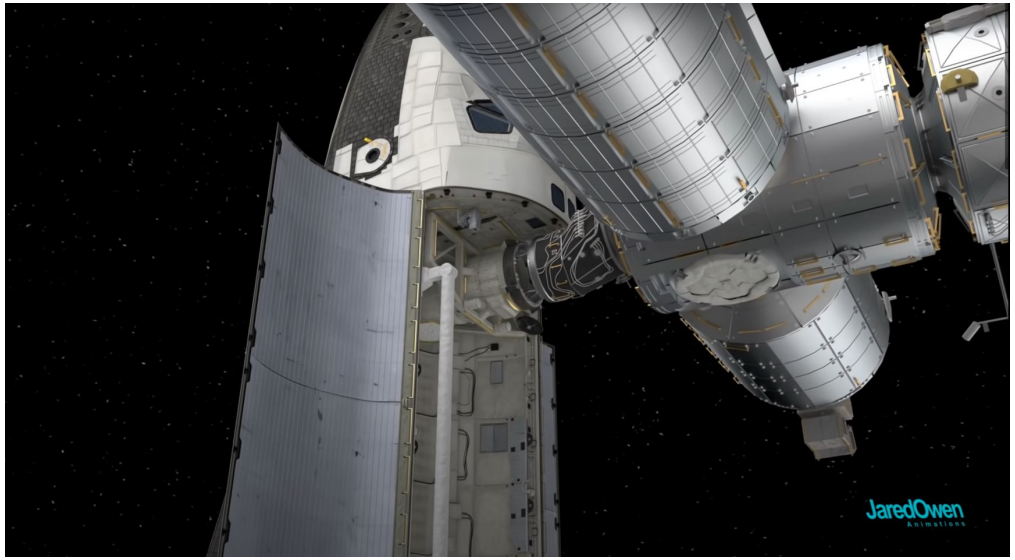


Space Suites are stored inside the airlock

Space Shuttle (Orbiter) “Upgraded” Airlock Location: Payload Bay







Airlock Parameter:	HAL	Orbiter
Interior Volume	9698 in3 (0.159 m3)	311,472 in3 (5.097 m3) with no space suites, 259,200 in3 (4.248 m3) + 3 space suites
Interior Dimensions	~cylindrical 24" (0.610 m) Length 24" (0.610 m) Diameter	~cylindrical 83" (2.108 m) high 63" (1.600 m) diameter
Hatch Size and Dimensions	20.78" (0.528 m)W 24.78" (0.629 m) H 0.86" (0.0218 m) T	~circular with 43.5" (1.105 m) diameter; hatches connect to airlock cylinder walls, not endplates
Mounting Plate	26" (0.660 m) W 34.06" (0.865 m) H	N/A
Mass		825 lb (374.2 kg) total, when empty
Pumping Power/Energy Needs		Orbiter airlock does not have a pump to recover its gas during depressurization; all this atmosphere is vented overboard each time a crew goes EVA

Shuttle data source: http://www.asi.org/adb/06/07/04/10/airlock-pictures.html