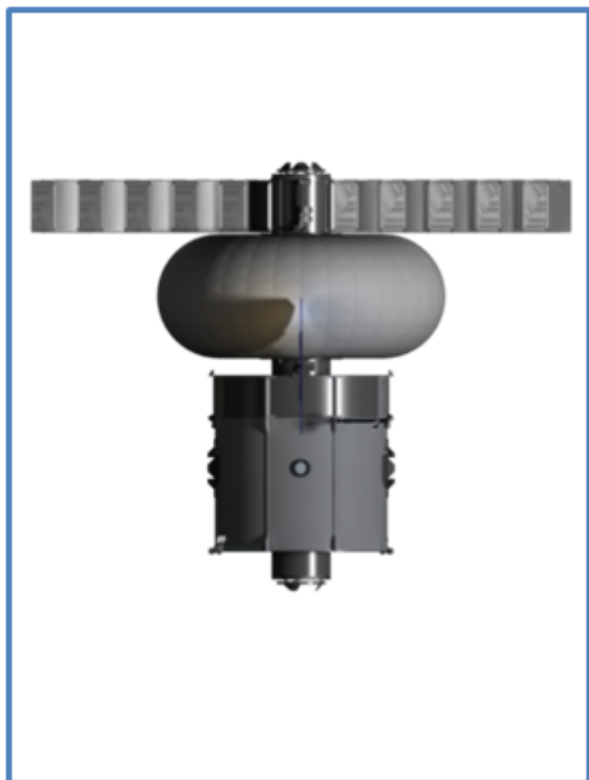
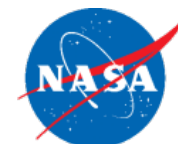


Deep Space Habitat



Design Constraints/Parameters

Pressurized Vol.	115 m ³
Habitable Vol.	54 m ³
Crew Capacity	3
Crewed Mission Duration	459 days
Solar power generation	16 kW
Total battery energy storage	13 kW-h
Number of Batteries	3
Depth of Discharge	80 %
ECLSS Closure	Closed-Loop
Habitat Structure	Vertical Rigid Cylin
Habitat Height	6.06 m
Habitat Diameter	4.57 m
Mass Growth Allocation	20 %
Project Manager's Reserve	10 %

Description

The Deep Space Habitat, in combination with one MMSEV and the CTV, provides habitation for crew members while in transit to and from Near Earth Objects. The habitat has connection adapters in order to dock with the MMSEV, CTV, and the propulsion unit. The MMSEV will supply the main EVA operations for the habitation unit.

Category	Mass, kg
Structure	1,720
Protection	336
Propulsion	0
Power	1,032
Control	0
Avionics	453
Environ./Active Therm	5,970
ECLSS	3,492
Thermal Control System	579
Crew Accommodations	1,899
Other - Doors, Hatches, Docking Mech.	1,131
Growth	3,193
DRY MASS SUBTOTAL	13,835
Non-cargo	6,521
Recreational Equipment	75
Crew Health Care	657
Personal Hygiene	135
Clothing	211
Housekeeping Supplies	262
Operational Supplies	129
Maintenance Equip. & Spares	1,625
Photography Supplies	120
Sleep Accommodations	27
Food	3,281
Cargo - Radiation Protection (waterwa	2,055
INERT MASS SUBTOTAL	22,411
Non-propellant	1,229
O2	161
N2	399
H2O	669
Propellant	0
TOTAL WET MASS	23,640