

HSTV EKATERINA (Liberian registry deep space freighter, owned by Trans-Solar Shipping Consortium)

Designed by Michael Scott

Overall length = 350', Dry mass = 320.6 tons, Loaded Mass = 474.2 tons (2624.6 if using water for fuel)

Command Module: Titanium Alloy, light frame, 30' sphere.

27 spaces, 2.8 ksf surface area, 10.13 tons mass

Basic Bridge, New, 1 space, 2.2 tons mass

Luxury cabin, 2 spaces, 2 tons mass

2 Cabins, 2 spaces, 2 tons mass

Vehicle Bay, 3.4 spaces, 1.69 tons mass

Surgery, Spares storage, Computer mainframe, Ancillary hardware

Axial Truss and Axial Passageway: Titanium Alloy, light frame, constructed in 10' wide x 5' segments of hexagonal cross-section, encompassing a 280' cylindrical passageway with a pressure hatch at least every 20 feet

28.67 spaces, 7.17 ksf surface area, 10.75 tons mass

Forward Spin Pods: Titanium Alloy, light frame, 2 pods, 10'x20' cylinders

6.4 spaces, 1.6 ksf surface area, 2.4 tons mass

1 Luxury cabin, 2 cabins, exercise facilities, 5 spaces, 5 tons

Spin Arms: Mounted on rotating coupling, provides .167 gee (rotating counter to Aft Spin Pods) Radius 55', 3.52 tons mass

Crew Habitats: Titanium Alloy, light frame, 6 pods, 10'x20' cylinders attached to axial truss in hexagonal cross-section.

19.2 spaces, 4.8 ksf surface area, 7.2 tons mass

Lounge, Galley, 8.64 spaces

7 cabins, 7 spaces, 7 tons mass

Aft Spin Pods: Titanium Alloy, light frame, 2 pods, 10'x20' cylinders

6.4 spaces, 1.6 ksf surface area, 2.4 tons mass

4 Bunkrooms, exercise facilities, 5 spaces, 5 tons

Spin Arms: Mounted on rotating coupling, provides .167 gee (rotating counter to Forward Spin Pods) Radius 55', 3.52 tons mass

Entry Modules, small: 2 extendable airlocks and docking collars

1 space, 4 tons mass

Robot Arm, Large: 19' extendible arm on rotating truss collar

1 space, 1.3 tons mass

Cargo Pods: Titanium Alloy, light frame, 12 pods, 10'x20' cylinders attached in two groups of 6 to the axial truss in hexagonal cross-section, 19,200 cubic foot capacity
38.4 spaces, 9.6 ksf surface area, 14.4 tons mass

PESA Array, medium: Mounted on tower extending 40'
1 space, 10 tons mass

Radar Array, medium: Mounted on tower extending 50'
1 space, 10 tons mass

Fuel Tanks, ultralight: 4 tanks, 20'x60' cylinders arranged cruciform on axial truss with
153.6 tons of Hydrogen capacity, (2304 tons of water)
153.6 spaces, 17.92 ksf surface area, 24.58 tons mass

Nanocomposite Armor: 27.57 ksf area, 82.71 tons mass

HI Fusion Torch Drive: 20'x30' cylinder
19.2 spaces, 76.8 tons mass
7.68 tons thrust, .768 RMC, 200 hours endurance (water: 23.04 tons thrust, .46 RMC,
333.9 hours endurance)
.016 to .024 gee acceleration (water: .0009 to .072 gee)
36,000 ISP (water: 12,000)
42.27 mps Delta Vee (water: 76.69)

Radiator Wings: 2 40'x100' rectangular wings attached to the Drive Module, extending
Port and Starboard, horizontally
8 ksf, 32 tons mass
(Additional 1.6 ksf radiators along axial truss.)

(Any unaccounted for space is applied to consumables storage and recycling)
(Cargo pods may be swapped out for Quarters pods for additional passenger capacity)
(Honeybee Work Pod is carried in Command Module vehicle bay)
(Spin Pods are emergency lifeboats with .25 ton HI Fusion Pulse drives)