



WELCOME TO EARTH-MARS.CYCLER.SYSTEM_OS

CYCLER.INFO

MARS CYCLER IS A TRAJECTORY THAT ENCOUNTERS BOTH EARTH AND MARS REGULARLY. ONCE THE ORBIT IS ESTABLISHED, NO PROPULSION IS REQUIRED TO SHUTTLE BETWEEN THE TWO, ALTHOUGH SOME MINOR CORRECTIONS MAY BE NECESSARY DUE TO SMALL PERTURBATIONS IN THE ORBIT, OR PROPULSION CAN BE USED TO OPTIMIZE TRAVEL TIME AND SPEEDS REQUIRED TO CAPTURE CYCLERS BY TAXI VEHICLES.

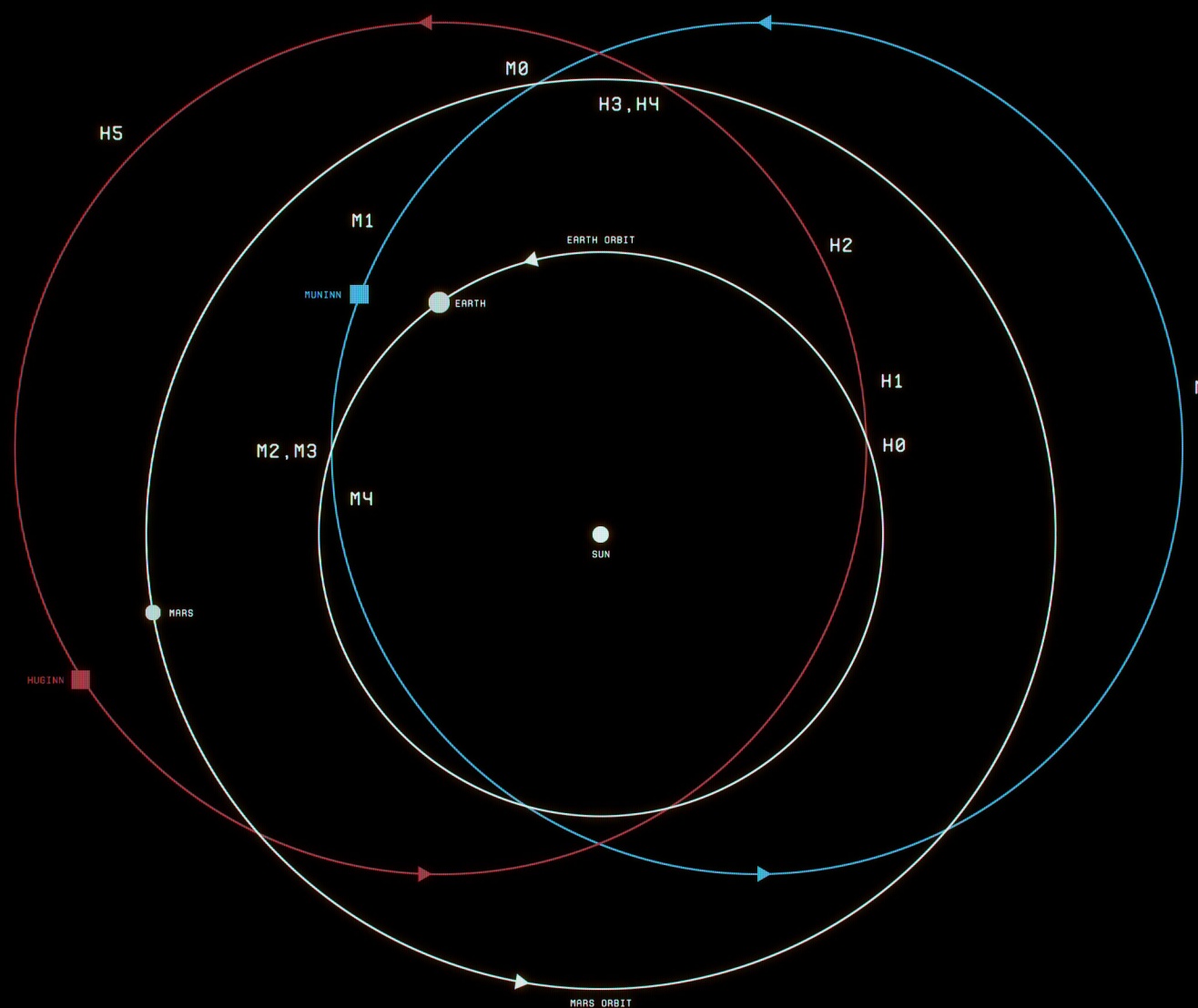
CYCLER 1 (HUGINN) TRAVELS AN OUTBOUND ROUTE FROM EARTH TO MARS IN 75-90 DAYS (FAST PHASE). AFTER REACHING MARS, CREW DEPARTS AND CYCLER RETURNS TO EARTH AUTONOMOUSLY IN 110-280 DAYS (LONG PHASE).

CYCLER 2 (MUNINN) IN A COMPLEMENTARY TRAJECTORY WOULD TRAVEL FROM MARS TO EARTH IN 75-90 DAYS TAKING MARS CREW BACK TO EARTH.

TAXI AND CARGO VEHICLES WOULD ATTACH TO THE CYCLER AT ONE PLANET AND DETACH UPON REACHING THE DESTINATION.

THE CYCLER SYSTEM PROVIDES A ROUTINE, SAFE, AND ECONOMICAL TRANSPORT BETWEEN EARTH AND MARS.

ORBITAL SCHEMATICS



TRANSIT SCHEDULE

CYCLER 1 HUGINN (MARSBOUND)

- H0. CREW BOARDING / CARGO RESTOCK
- H1. EARTH SPACE DEPARTURE
- H2. TRANSIT TO MARS (FAST PHASE)
- H3. MARS ARRIVAL
- H4. CREW DISEMBARK
- H5. CYCLER 1 (NO CREW) CYCLES BACK TO EARTH SPACE (SLOW PHASE)

CYCLER 2 MUNINN (EARTHBOUND)

- M0. MARS CREW BOARDING
- M1. TRANSIT TO EARTH (FAST PHASE)
- M2. EARTH ARRIVAL / CREW DEPARTURE
- M3. CARGO RESTOCK / REFUELING
- M4. EARTH SPACE DEPARTURE
- M5. CYCLER 2 (NO CREW) CYCLES BACK TO MARS SPACE (SLOW PHASE)

EACH CYCLER ORBIT HAS TWO PHASES:

1. FAST - CREW ON BOARD
TRANSIT TIME: 75-90 DAYS
2. SLOW - NO CREW, AUTONOMOUS MODE
TRANSIT TIME: 110-280 DAYS

BY PLACING TWO CYCLERS IN OPTIMALLY SYNCED ORBITS, CREW IS ON BOARD OF SPACECRAFT DURING THE FAST PHASE, WHILE IN SLOW PHASE SPACECRAFT IS OPERATING AUTONOMOUSLY.

EARTH-MARS CYCLER SYSTEM SPACECRAFT

- HABITATION MODULES FOR 6-8 CREW MEMBERS
- ADVANCED LIFE SUPPORT SYSTEMS
- SCIENTIFIC FACILITIES
- COMFORTABLE CREW QUARTERS
- MEDICAL FACILITIES AND GYM
- CENTRIFUGAL GRAVITY SECTIONS

HABITABLE SPACE VOLUME: 2600 M3
 CYCLER SYSTEMS VOLUME: 700 M3
 CYCLER TOTAL VOLUME: 3300 M3

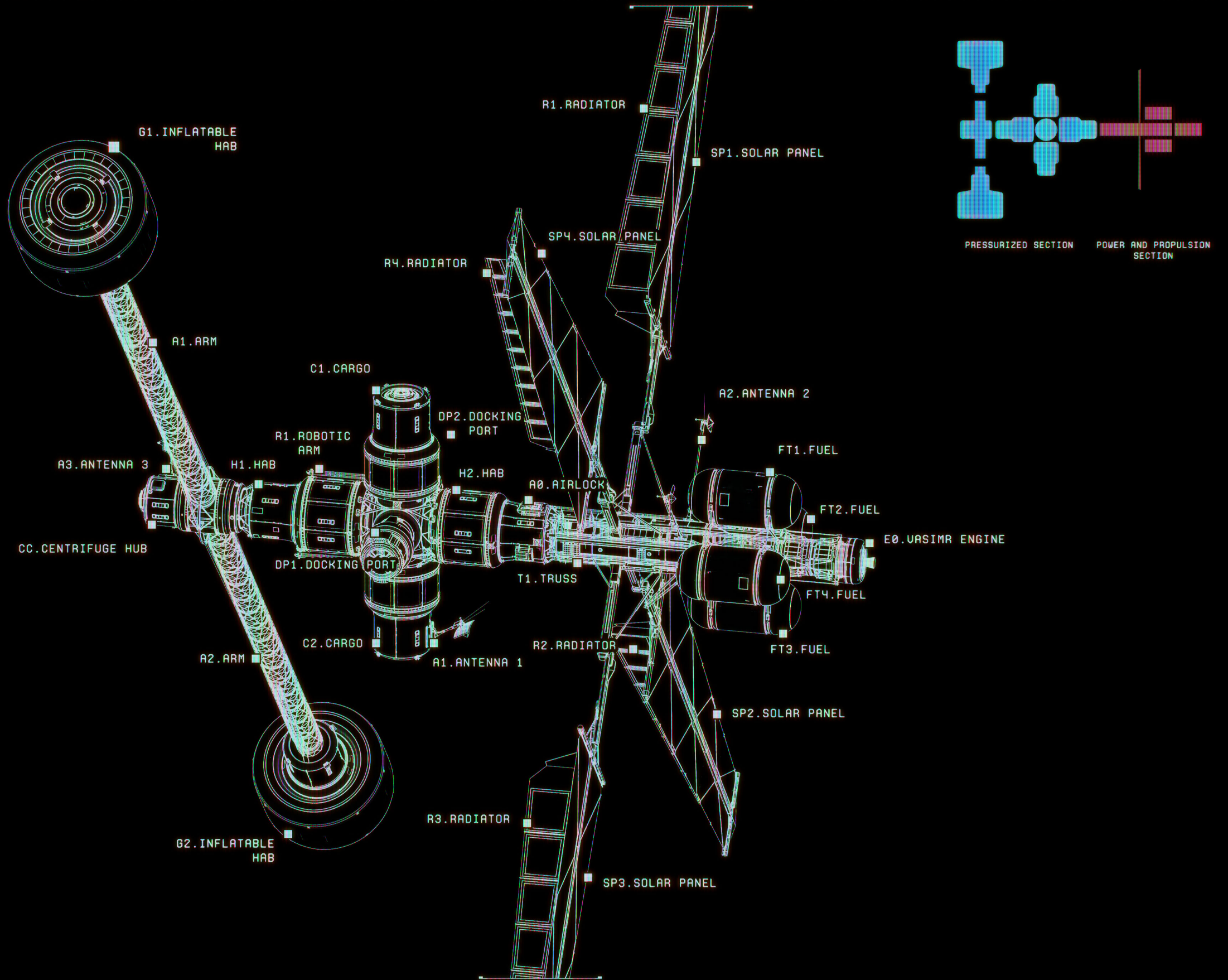
TOTAL LENGTH: 80.60 M
 DIAMETER: 174.20 M

SOLAR PANELS POWER OUTPUT: >3000 KW
 SOLAR PANELS SURFACE AREA: 2400 M2

RADIATOR AREA: 1200 M2

EARTH-MARS CYCLER SYSTEM TAXI CAPSULE

- CREW AND CARGO TRANSFER TO AND FROM EMCS SPACECRAFTS
- 6-8 CREW CAPACITY



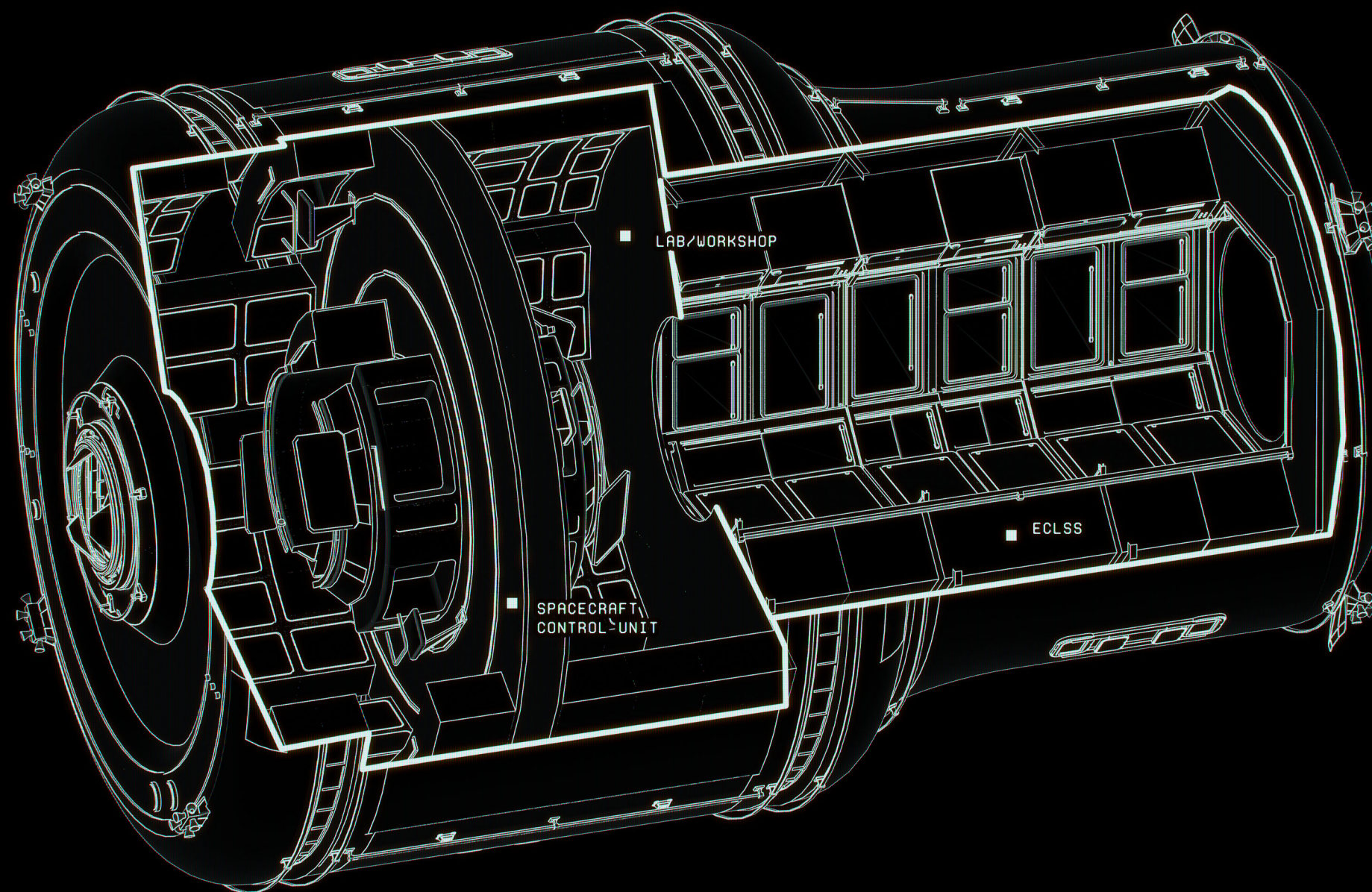
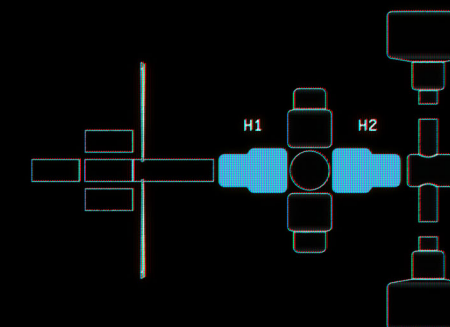
HAB MODULE H1/H2

- ENVIRONMENTAL CONTROL LIFE SUPPORT SYSTEM
- SPACECRAFT CONTROL UNIT
- LAB / WORKSHOP

LIVING VOLUME: 210 M3
 SYSTEMS VOLUME: 115 M3
 PRESSURIZED VOLUME: 325 M3

LENGTH: 12.80 M
 DIAMETER: 8.00 M

GRAVITY: 0.00 G



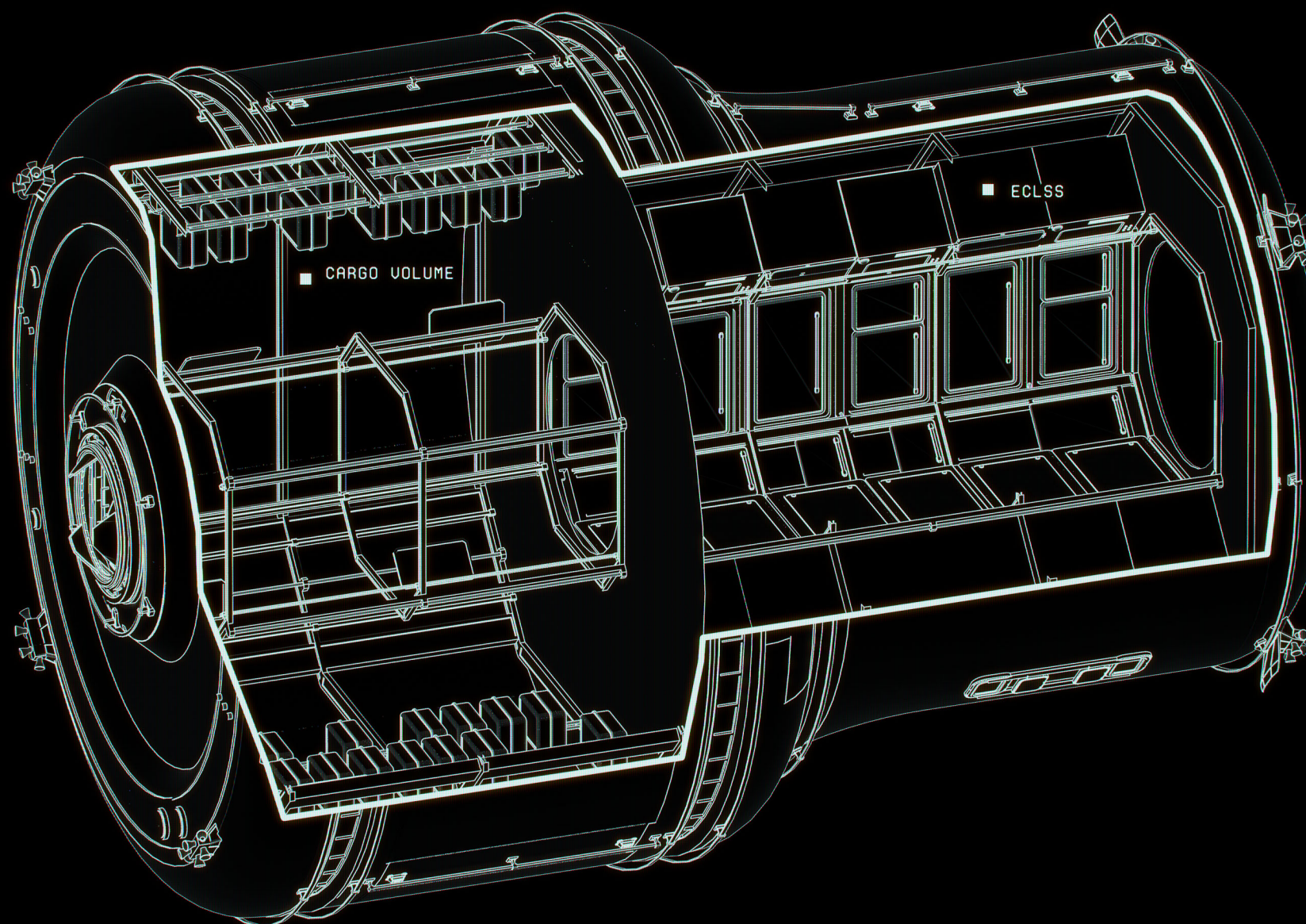
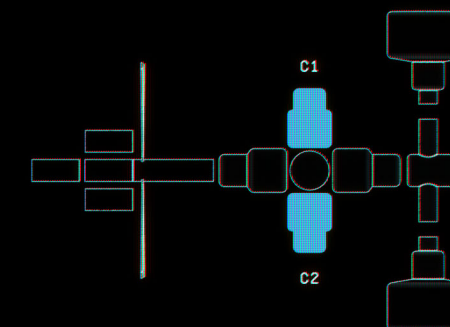
CARGO MODULE C1/C2

- ENVIRONMENTAL CONTROL LIFE SUPPORT SYSTEM
- CARGO SECTION
- AUTOMATED CARGO MANAGEMENT

CARGO VOLUME: 150 M3
 SYSTEMS VOLUME: 115 M3
 PRESSURIZED VOLUME: 270 M3

LENGTH: 11.30 M
 DIAMETER: 8.00 M

GRAVITY: 0.00 G



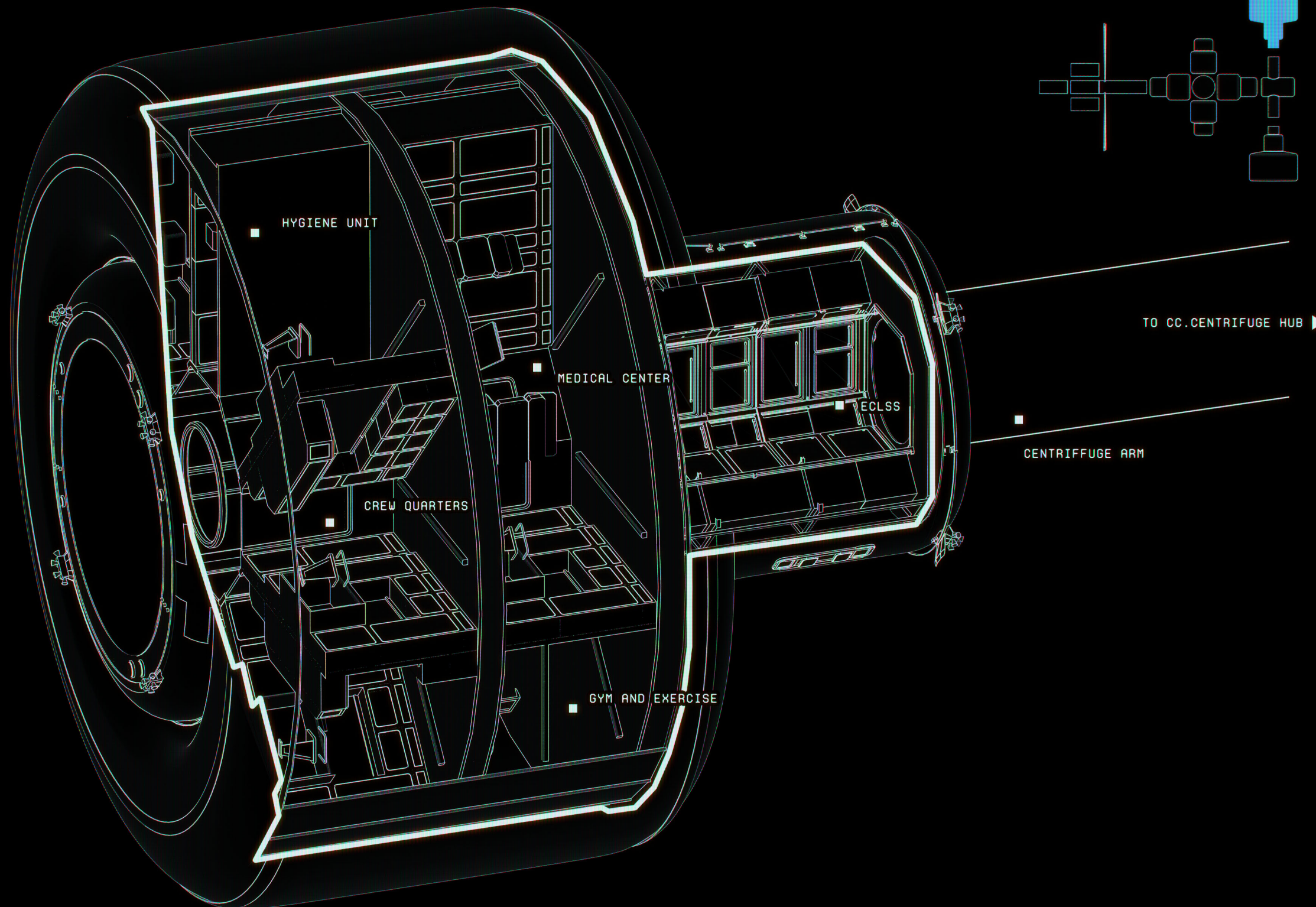
INFLATABLE G-MODULE G1

- ENVIRONMENTAL CONTROL LIFE SUPPORT SYSTEM
- CREW QUARTERS
- HYGIENE UNIT
- MEDICAL CENTER
- GYM AND EXERCISE

HABITABLE VOLUME: 930 M3
 SYSTEMS VOLUME: 115 M3
 PRESSURIZED VOLUME: 1045 M3

LENGTH: 14.80 M
 DIAMETER: 15.00 M

GRAVITY: 0.38 G



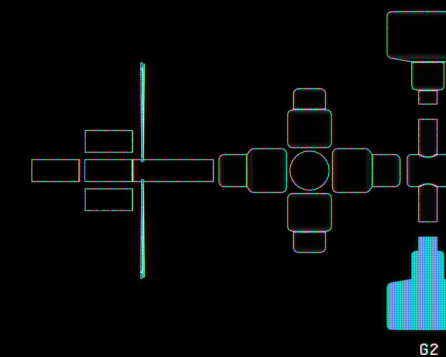
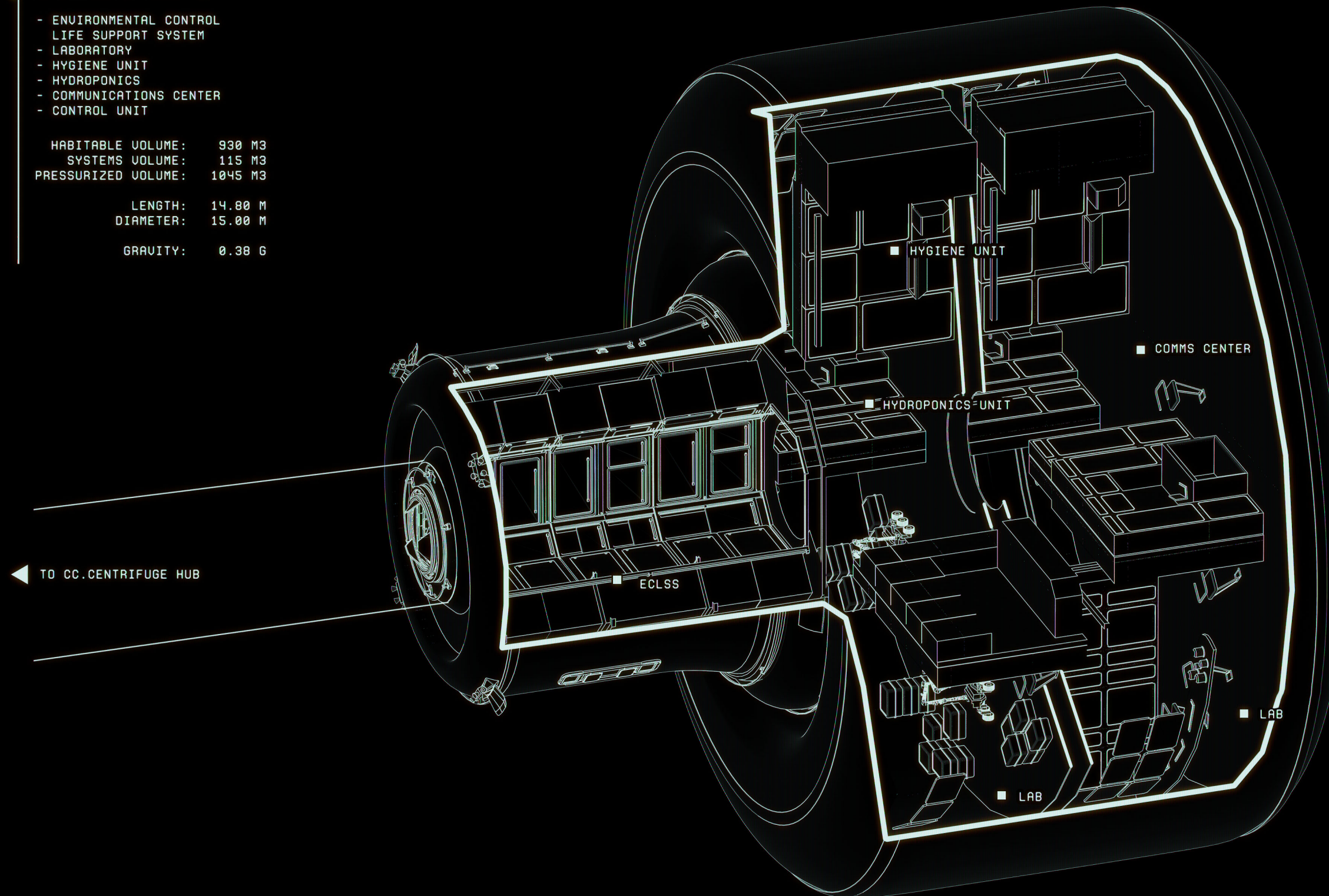
INFLATABLE G-MODULE G2

- ENVIRONMENTAL CONTROL LIFE SUPPORT SYSTEM
- LABORATORY
- HYGIENE UNIT
- HYDROPONICS
- COMMUNICATIONS CENTER
- CONTROL UNIT

HABITABLE VOLUME: 930 M3
 SYSTEMS VOLUME: 115 M3
 PRESSURIZED VOLUME: 1045 M3

LENGTH: 14.80 M
 DIAMETER: 15.00 M

GRAVITY: 0.38 G



MODULE.INFO

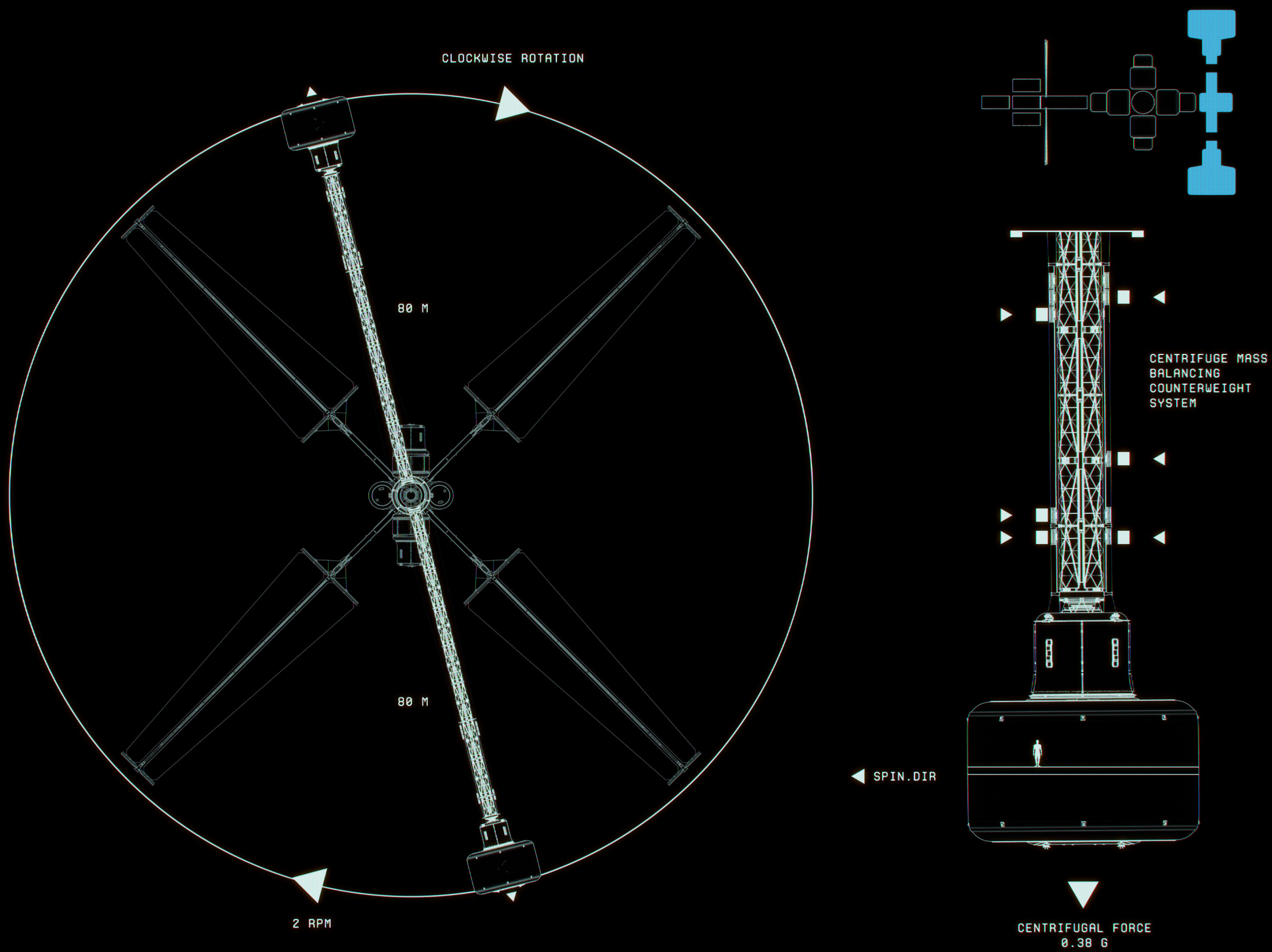
CENTRIFUGE MODULE DESIGNED TO PROVIDE 0.38G (MARS GRAVITY EQUIVALENT) OF ROTATIONAL FORCE AT THE ENDS OF TWO ARMS.

ARM TUNNEL IS EQUIPED WITH CABLE ELEVATOR, FOR EASE OF ACCESS TO INFLATABLE CENTRIFUGAL GRAVITY MODULES.

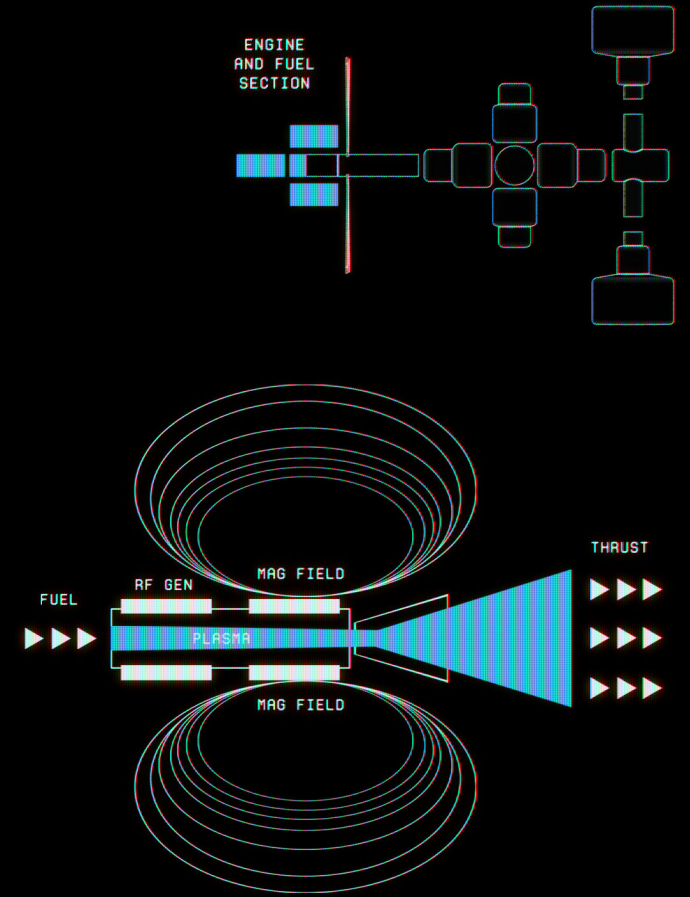
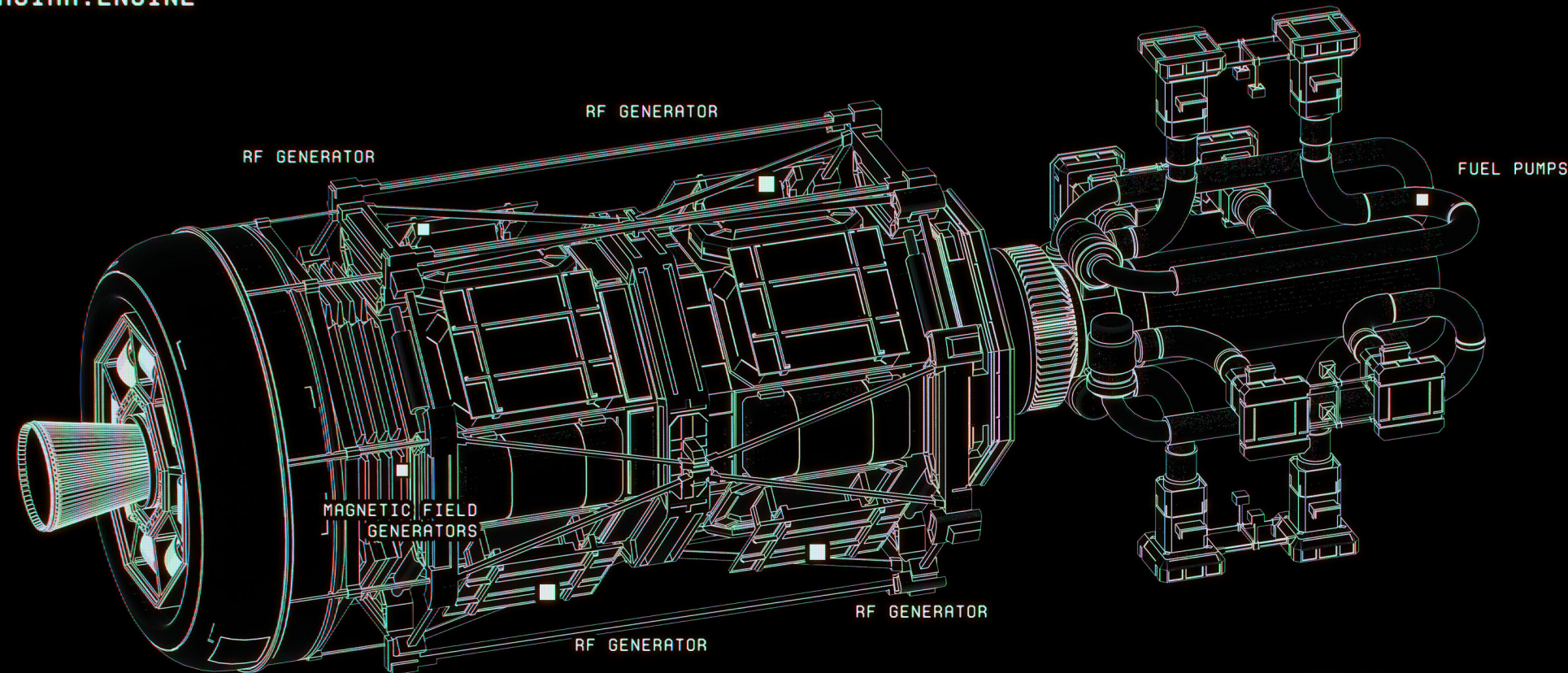
RADIUS: 80M
 SPIN RATE: 2 RPM
 G-FORCE: 0.38

CENTRIFUGE ARM TUNNEL X 2

PRESSURIZED VOLUME: 310 M3
 LENGTH: 68.60 M
 DIAMETER: 2.90 M



UASIMR_ENGINE



ENGINE.INFO

VARIABLE SPECIFIC IMPULSE
MAGNETOPLASMA ROCKET (UASIMR)

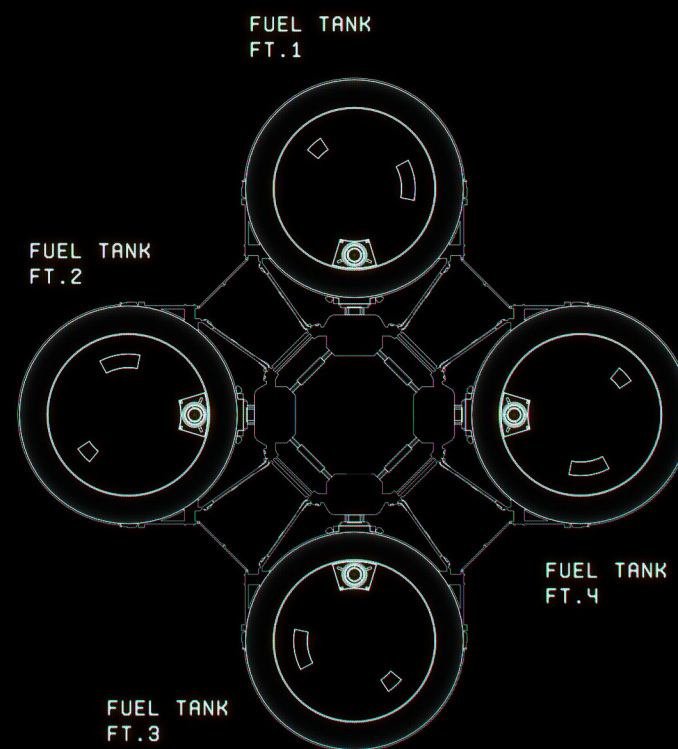
ELECTROTHERMAL THRUSTER USING
RADIO WAVES TO IONIZE AND
HEAT AN INERT PROPELLANT,
FORMING A HOT PLASMA, WHICH
IS THEN MAGNETICALLY CONFINED
AND FORMED INTO EXPANDING
PLASMA GENERATING THRUST.

CYCLER SYSTEM UASIMR ENGINE
USES ABUNDANT AND INEXPENSIVE
ARGON GAS.

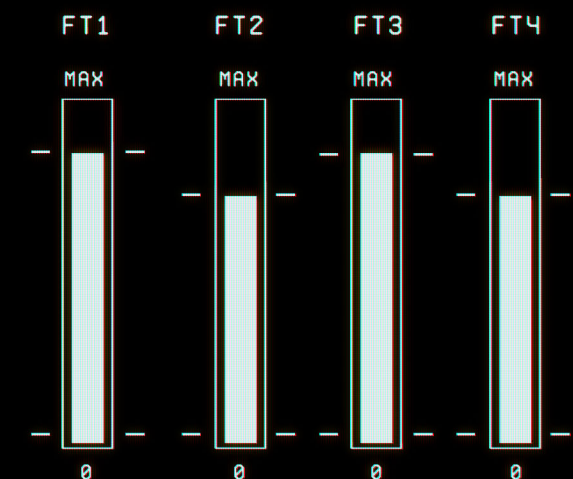
ENGINE.SPECIFICATION

FUEL: LIQUID ARGON
ISP: >5000 S
THRUST: 60N
POWER INPUT: 200 KW

DU: >12000 M/S
FUEL MASS: 4 X 300T
FUEL DENSITY: 1400 KG/M3



FUEL LEVELS



LOGOUT SUCCESSFUL



FAREWELL!

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