GALAXIIUM
TRAVELS

Galaxium Luna Cruiser - Technical Specifications

Galaxium Travels

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Overview

The Galaxium Luna Cruiser is a specialized spacecraft designed for lunar surface landings and excursions. It combines advanced propulsion, robust life support systems, and luxury amenities to provide a safe and comfortable experience for passengers exploring the Moon.

General Specifications

- **Manufacturer**: Galaxium Aerospace
- **Model**: LC-1
- **First Flight**: 2026
- **Status**: Active Service
- **Fleet Size**: 2 vessels

Dimensions and Capacity

- **Length**: 35 meters
- **Width**: 10 meters
- **Height**: 7 meters
- **Passenger Capacity**: 8
- **Crew Capacity**: 3
- **Cargo Capacity**: 1,500 kg

Propulsion System

Primary Engines

- **Type**: Hybrid Chemical-Electric Propulsion
- **Thrust**: 400 kN
- **Specific Impulse**: 3,800 seconds

- **Fuel**: LOX/LH2
- **Efficiency**: 95%

Secondary Engines

- **Type**: Ion Thrusters
- **Thrust**: 50 kN
- **Fuel**: Xenon
- **Purpose**: Orbital adjustments and fine maneuvering

Power Systems

Primary Power

- **Type**: Advanced Solar Arrays
- **Output**: 30 MW
- **Efficiency**: 90%
- **Lifespan**: 15 years

Backup Power

- **Type**: Lithium-Ion Batteries
- **Capacity**: 500 kWh
- **Purpose**: Emergency power and night operations

Life Support Systems

Air Management

- **Oxygen Generation**: Electrolysis
- **CO2 Removal**: Molecular Sieve
- **Air Filtration**: HEPA + UV
- **Air Exchange Rate**: Every 3 minutes

Water Management

- **Water Recovery**: 95%
- **Storage Capacity**: 3,000 liters
- **Purification**: Multi-stage filtration
- **Recycling System**: Closed-loop

Temperature Control

- **Range**: 18-24°C
- **Humidity Control**: 40-60%
- **Thermal Protection**: Multi-layer insulation

Safety Features

Emergency Systems

- **Escape Pods**: 2 (4 passengers each)
- **Life Support Duration**: 48 hours
- **Emergency Power**: 36 hours
- **Radiation Shielding**: 4 cm lead equivalent

Navigation

- **Primary**: GPS + Lunar Navigation
- **Backup**: Stellar Navigation
- **Autonomous Capability**: Level 3
- **Collision Avoidance**: AI-powered

Luxury Amenities

Accommodations

- **Suite Types**: 4 (2 passengers each)
- **Bed Size**: Queen
- **Window Size**: 1.5m x 1.2m
- **Privacy Features**: Smart glass

Common Areas

- **Observation Deck**: 80 m²
- **Dining Area**: 40 m²
- **Recreation Room**: 60 m²
- **Exercise Facility**: 30 m²

Entertainment

- **Virtual Reality Suite**: Yes
- **Zero-G Pool**: 2m x 1.5m

- **Holographic Theater**: Yes
- **High-Speed Internet**: 500 Mbps

Performance Metrics

Flight Characteristics

- **Maximum Speed**: 25,000 km/h
- **Orbital Capability**: Earth to Moon
- **Maximum G-Force**: 2.5G
- **Maneuverability**: 5 degrees of freedom

Mission Capabilities

- **Maximum Duration**: 10 days
- **Range**: Earth to Moon
- **Payload Capacity**: 1,500 kg
- **Docking Capability**: Lunar Gateway compatible

Maintenance

Inspection Intervals

- **Daily**: Visual inspection
- **Weekly**: System diagnostics
- **Monthly**: Deep maintenance
- **Annual**: Complete overhaul

Service Life

- **Design Life**: 15 years
- **Major Refit**: Every 4 years
- **Component Replacement**: As needed
- **Software Updates**: OTA

Environmental Impact

Emissions

- **CO2 Equivalent**: 0.3 tons per flight

- **Particulate Matter**: Negligible
- **Noise Pollution**: Below regulatory limits
- **Space Debris**: Zero

Sustainability Features

- **Recycled Materials**: 80%
- **Energy Efficiency**: 90%
- **Waste Management**: Zero waste
- **Carbon Offset**: 150%

Certification

- **Space Safety**: ISO 14620
- **Environmental**: ISO 14001
- **Quality Management**: ISO 9001
- **Occupational Health**: OHSAS 18001