



GALAXIUM
TRAVELS

Galaxium Aurora Explorer - Technical Specifications

Galaxium Travels

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Overview

The Galaxium Aurora Explorer is a state-of-the-art spacecraft designed for deep space and scientific tourism, including missions to Jupiter's moons and the asteroid belt. It combines advanced propulsion systems, robust life support, and luxury amenities to provide a safe and comfortable experience for passengers on extended space journeys.

General Specifications

- **Manufacturer:** Galaxium Aerospace
- **Model:** AE-1
- **First Flight:** 2029
- **Status:** Active Service
- **Fleet Size:** 1 vessel

Dimensions and Capacity

- **Length:** 60 meters
- **Width:** 20 meters
- **Height:** 12 meters
- **Passenger Capacity:** 20
- **Crew Capacity:** 6
- **Cargo Capacity:** 4,000 kg

Propulsion System

Primary Engines

- **Type:** Advanced Nuclear Fusion Propulsion

- **Thrust:** 1,000 kN
- **Specific Impulse:** 6,000 seconds
- **Fuel:** Deuterium-Tritium
- **Efficiency:** 99%

Secondary Engines

- **Type:** Ion Thrusters
- **Thrust:** 150 kN
- **Fuel:** Xenon
- **Purpose:** Orbital adjustments and fine maneuvering

Power Systems

Primary Power

- **Type:** Advanced Nuclear Reactor
- **Output:** 100 MW
- **Efficiency:** 98%
- **Lifespan:** 30 years

Backup Power

- **Type:** Solar Arrays
- **Surface Area:** 400 m²
- **Output:** 200 kW
- **Battery Capacity:** 3 MWh

Life Support Systems

Air Management

- **Oxygen Generation:** Electrolysis
- **CO2 Removal:** Molecular Sieve
- **Air Filtration:** HEPA + UV
- **Air Exchange Rate:** Every 1.5 minutes

Water Management

- **Water Recovery:** 99%
- **Storage Capacity:** 8,000 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:** 4 (5 passengers each)
- **Life Support Duration:** 96 hours
- **Emergency Power:** 72 hours
- **Radiation Shielding:** 8 cm lead equivalent

Navigation

- **Primary:** Quantum Navigation
- **Backup:** GPS + Stellar Navigation
- **Autonomous Capability:** Level 5
- **Collision Avoidance:** AI-powered

Luxury Amenities

Accommodations

- **Suite Types:** 10 (2 passengers each)
- **Bed Size:** King
- **Window Size:** 3m x 2.5m
- **Privacy Features:** Smart glass

Common Areas

- **Observation Deck:** 150 m²
- **Dining Area:** 80 m²
- **Recreation Room:** 120 m²
- **Exercise Facility:** 70 m²

Entertainment

- **Virtual Reality Suite:** Yes
- **Zero-G Pool:** 5m x 4m
- **Holographic Theater:** Yes
- **High-Speed Internet:** 2 Gbps

Performance Metrics

Flight Characteristics

- **Maximum Speed:** 35,000 km/h
- **Orbital Capability:** Earth to Jupiter
- **Maximum G-Force:** 4G
- **Maneuverability:** 7 degrees of freedom

Mission Capabilities

- **Maximum Duration:** 24 months
- **Range:** Earth to Jupiter
- **Payload Capacity:** 4,000 kg
- **Docking Capability:** Jupiter Gateway compatible

Maintenance

Inspection Intervals

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

Service Life

- **Design Life:** 30 years
- **Major Refit:** Every 6 years
- **Component Replacement:** As needed
- **Software Updates:** OTA

Environmental Impact

Emissions

- **CO2 Equivalent:** 1.0 tons per flight
- **Particulate Matter:** Negligible
- **Noise Pollution:** Below regulatory limits
- **Space Debris:** Zero

Sustainability Features

- **Recycled Materials:** 90%
- **Energy Efficiency:** 98%
- **Waste Management:** Zero waste
- **Carbon Offset:** 250%

Certification

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