Pegasus®

Patented Air Launch System

LAUNCH VEHICLE

Small-Class

Overview

Pegasus was specifically developed to provide cost-effective access to space for the small satellite community. The Pegasus air-launch system is the industry's workhorse, providing launch services for technology demonstration, scientific investigation, remote sensing and communications missions. The three-stage Pegasus boosts small satellites weighing up to 1,000 pounds (450 kilograms) into low-Earth orbit. Pegasus is carried aloft by an L-1011 carrier aircraft to approximately 40,000 feet (12,000 meters) over open ocean, where it is released and then free-falls in a horizontal position for five seconds before igniting its first stage rocket motor. In a typical mission Pegasus delivers its payload into orbit in a little over ten minutes.

System Features

- Inertially guided three stage solid rocket propulsion
- Horizontal satellite integration and simplified launch operations
- Carrier aircraft provides on-board payload monitoring and control
- Air-launched mobility enables launch from anywhere, worldwide:
  - Demonstrated launch capability from U.S. Air Force Western Range (WR), Eastern Range (ER), NASA's Wallops Flight Facility, Canary Islands and Kwajalein launch sites
  - Flight-proven with a demonstrated success record:
    - 42 missions conducted
    - 28 consecutive fully successful missions
- Flexibility to support unique user needs

FACTS AT A GLANCE

World's leading small-class space launch vehicle.

42 missions conducted; flawless record since late 1996.

Launches conducted from California, Virginia, Florida, the Canary Islands and the Kwajalein Atoll in the Marshall Islands.

Pegasus "Firsts"

- World's first privately developed space launch vehicle.
- Maiden 1990 mission marked the first all-new, unmanned space launch vehicle developed in the U.S. in more than 20 years.
- First winged vehicle to accelerate to eight times the speed of sound.
- First air-launched rocket to place satellites into orbit, using its carrier aircraft as an "air breathing reusable first stage."

Pegasus in flight

Pegasus®

Performance

- Flight verified systems performance
- Optional Hydrazine Auxiliary Propulsion System (HAPS)
  - Precision injection capability
  - Increased performance to higher LEO altitudes
- Any inclination can be achieved by varying launch point

Payload Accommodations

Standard Accommodations

- Temperature, humidity control
- Class 8 (100,000) cleanliness

Enhanced Accommodations

- Class 7 (10,000) cleanliness
- Nitrogen purge

Flight-Proven Dual Payload Accommodations

More Information

For additional information and a complete Pegasus Users Guide, please visit: www.orbital.com/NewsInfo/Publications/pegasus_ug.pdf

Key Contacts

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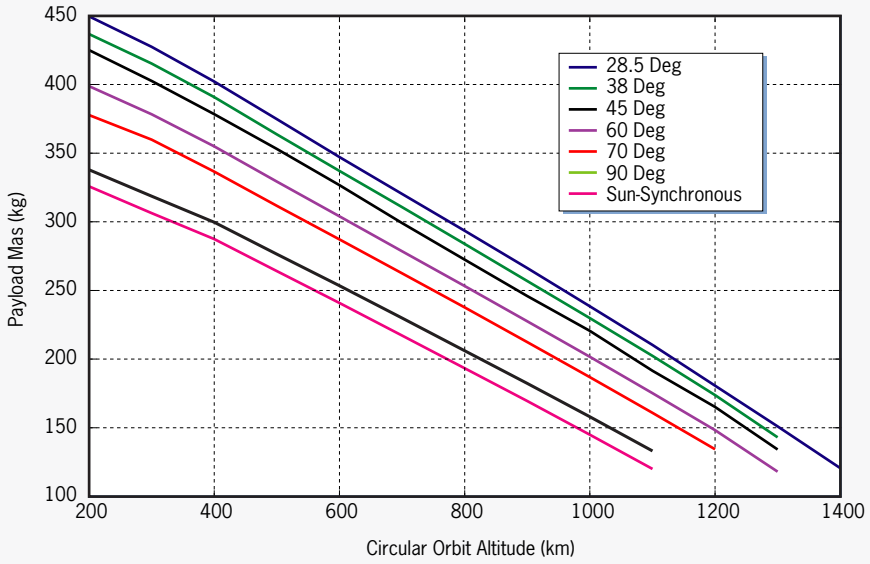
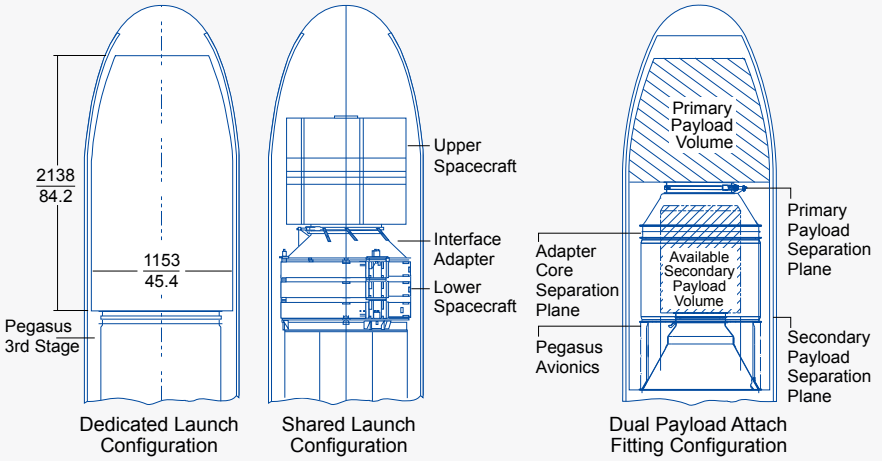
Performance



Payload Accommodations



Dimensions in $\frac{mm}{in}$

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