

THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN



Pegasus[®]

Patented Air Launch System

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 39,000 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.

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."

Facts At A Glance

World's leading small-class space launch vehicle.

43 missions conducted; flawless record since late 1996.

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

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:
 - 43 missions conducted
 - 29 consecutive fully successful missions

Flexibility to support unique user needs

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

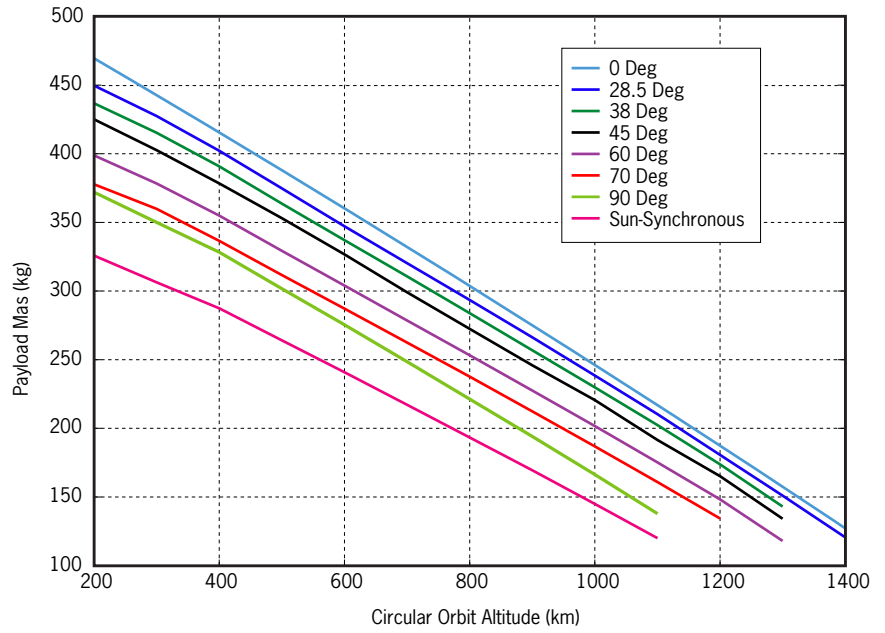
Standard Accommodations

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

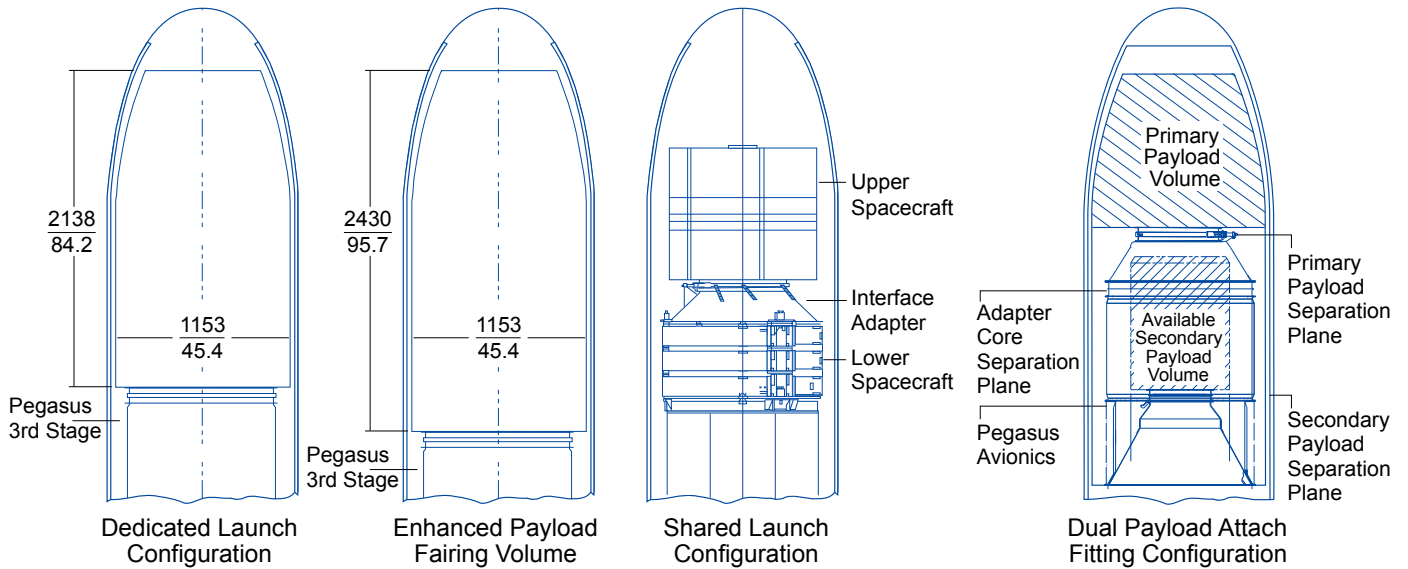
Enhanced Accommodations

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

Flight-Proven Dual Payload Accommodations



Payload Accommodations



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

More Information

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For additional information and a complete Pegasus Users Guide, please visit:

www.NorthropGrumman.com/LaunchSystems/Publications/Pegasus_UsersGuide.pdf

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