



## SPACE

### M10 SEPARATION NUT P/N ME0038AC

Pyroalliance designs a wide range of separation nuts, used for the in orbit deployment of antenna reflectors and solar generators on satellites or used for the separation of satellites of a constellation, assembled on a dispenser.

With a recorded rate of in-flight success of 100% over more than 10000 separation nuts delivered until today to its customers, Pyroalliance provides with such separation nuts extremely reliable solutions of Hold down and release.

More generally, Pyroalliance delivers complete pyrotechnic chains adapted to its customers' needs. They are designed and manufactured under Pyroalliance design authority.

# SEPARATION NUT

## Operating mode

The separation nut is a pyro-mechanism which performs two functions:

1. maintaining a pre-loaded assembly of two set,
2. releasing the assembly upon an electrical order.

The energy required to achieve the release is provided by gas pressure (pyrotechnic gas generated by the initiator).

## Benefits

- **Reliability**  
High reliability of the product is granted by the implementation of redundant initiators and the systematic in-factory functional testing (100%) of the mechanical part by cold gas actuation (instead of pyrotechnic gas) and reseted after test.
- **Level of shock**  
The level of induced shock on the payload is minimized using a Pyroalliance proprietary shock reduction solution enabling to meet the current market needs while preserving the reliability of the product.
- **Actuation time and synchronicity**  
By nature, pyrotechnic actuators allow a very low actuation time and associated to a low standard deviation. Consequently high level of synchronicity is granted for several nuts activated simultaneously, as this is the case for holding satellites on dispensers.

## Applications

- Satellite release from a dispenser

### Classification Product

- Number UN: UN0173
- Storage class: 1.4S
- Not restricted by ITAR regulation

## For more information

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## Typical performances and features

Operation time  
(Typical values): Few ms

Over all dimensions\*  
(Width/Depth/Height): 56mm / 36mm / 54mm

Bolt dimensions: M10 x 1.25

Weight without initiators: 142.2 g

Operating temperature: -60°C to +80°C

Operating bolt tension: Up to 20kN

Initiators: 2 NSI\*\*

\*Dimensions without initiators  
\*\*NASA Standard Initiators



Set of Separation nuts ME0038AC for a constellation

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