



## SPACE

### ½ Inch SEPARATION NUT\* ME0027

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 the 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.
- **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

- Release of probe
- Antenna or solar panels release
- Release of satellites from dispensers

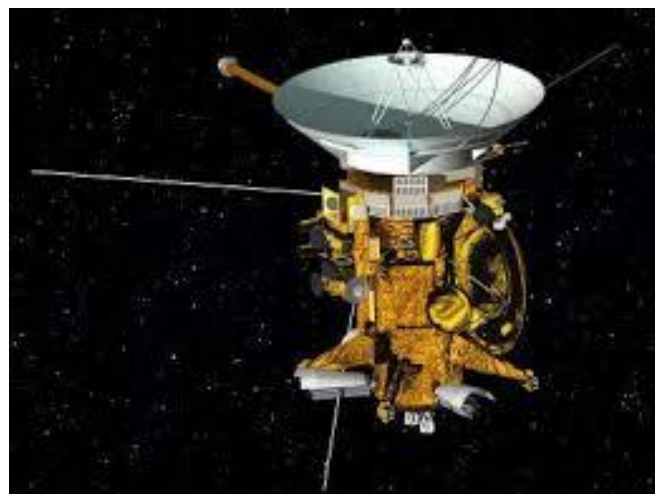
## Typical performances and features

Operation time (Typical values):	Few ms
Over all dimensions** (Width/Depth/Height):	61mm / 41mm / 47mm
Bolt dimensions:	½ Inch
Operating temperature:	-60°C to +80°C
Operating bolt tension:	Up to 50kN
Initiators:	2 NSI***

\*Product under development

\*\*Dimensions without initiators

\*\*\*NASA Standard Initiators



Pyroalliance's equipment on board Cassini-Huygens  
- Airbus Defense & Space

### Classification Product

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

## For more information

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