



## DEFENSE

### PIN RETRACTORS

Pyroalliance designs and manufactures pyrotechnic pin retractors dedicated to secure the holding position of a mechanism aiming to be deployed or ejected after the pin is retracted. This is often the case on missiles, for flight surface actuators, wings or air intake cover.

The overall dimensions as well as piston travel ranges are adjusted depending on the application. The pin retractors are triggered at various moments during the full sequence of a mission.

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

# PIN RETRACTOR

## Operating mode

A pin retractor is a locking device that can be implemented on several missile actuation functions. It is triggered upon reception of a secured electrical order and is part of a succession of pyrotechnical events during a missile operational mission.

This drive current of at least 5A activates the igniter located inside the cartridge. The pyrotechnic compound of the cartridge creates a gas pressure inside the chamber that will move the piston along the metallic housing of the retractor.

During operation, the device remains hermetic from pyrotechnic combustion gas.

## Benefits

- High speed of operation < 5ms (Essential feature to synchronize functions)
- High reliability level > 0.9998 @90% CL
- Identification of hazards 1.4S
- Hermeticity: contained effects, no fragments or flames

## Applications

- Missile or rocket launch tube
- Fins and wings release
- Protection/cover removal for
  - o Air intake
  - o Optical instrument
- Emergency door release

## Typical performances and features

Operating time	< 5ms typical (< 10ms max)
Size	Height : 80-90mm
	Length : 70-80mm
	Width : 50-60mm
Weight	200 – 250g
Temperatures	Adapted to typical airborne military climatic environment
Reliability	≥ 0.9998 @90% CL
Piston specificity	Ø TBD by customer
Life Time	Adapted to the mission and life profile
Firing Current	5A - 10ms
Non Firing Current	1A / 1W / 5min @100°C

### Classification

- UN Number: 0323
- Transportation class: 1.4S (out and in the approved packing)
- Not subject to any ITAR constraint

## For more information

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