



## INDUSTRY

### EMERGENCY ACTUATOR FOR TAPERED VALVES

Pyroalliance designs and manufactures a wide range of safety pyrotechnic mechanisms & add-ons for various types of taps and turn valves.

Ultra-high-speed pyrotechnic actuators are used as an ultimate mean of safety when fast operation is needed (less than 5ms) to provide an instant flow path opening or closure. They are mounted on top or inserted in-between the traditional manoeuvring system and the valve body. Manoeuvre can be manually, electrically, thermally, pneumatically or hydraulically driven.

Pyrotechnic assemblies provide a safe (and possibly autonomous) redundancy. The pressurized gas release will provide more torque in order to actuate larger ¼ turn valves formats.

Pyroalliance also produces a variety of electrically or manually operated replacement cartridges.

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# LINEAR SAFETY ACTUATORS

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## Operation mode

The Linear safety actuator is built around a pneumatic sliding piston and a pyrotechnic cartridge.

In order to provide more torque while keeping low mass of ignition powder, Pyroalliance relies on the pressure amplification generated by a gas bottle.

The triggering order is transmitted to a pyro-pin pusher that will penetrate a pressurised gas bottle and release high pressure within the system. Pressure will have two simultaneous actions:

- 1st one is to relax from the given command mechanism,

- 2nd is to fill a chamber that will actuate a piston. This piston will translate and play on the gearing to turn the flap or ball inside the valve, allowing or blocking a given fluid from flowing.

Such valves are field resettable, after consumable replacement and cleaning (pin pusher, gas bottle, piston and joins).

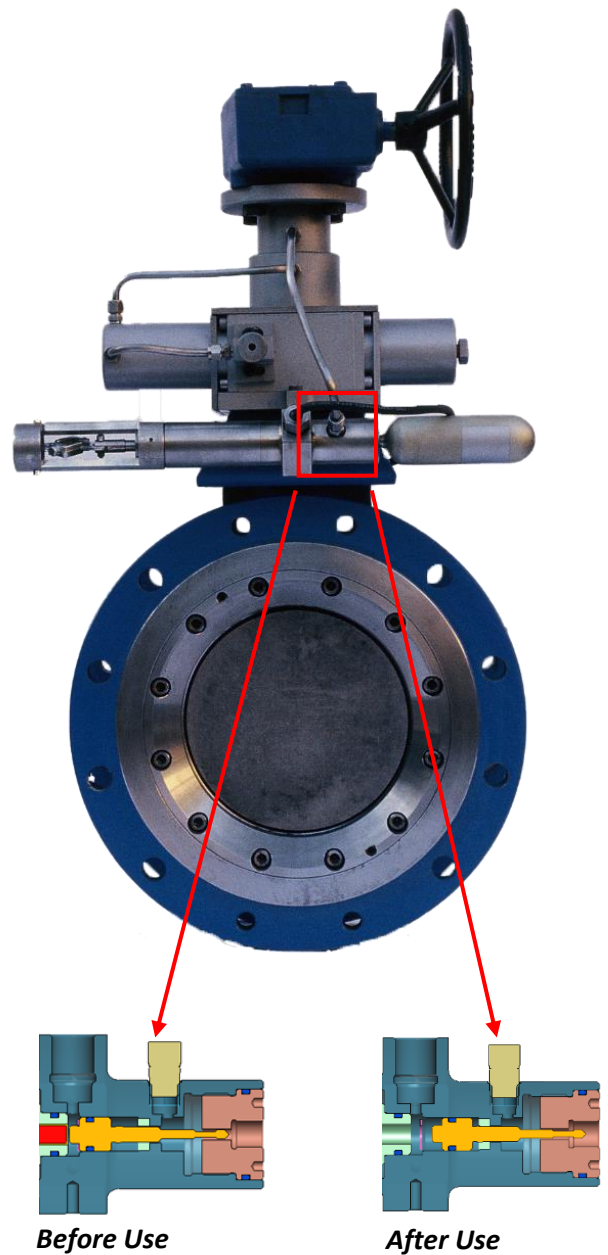
## Benefits

- Extreme reliability (avoiding inadvertent actuations...and factory shut downs).
- Fast actuation time.
- High pressure compliance.
- Low power actuation (can run on battery).
- Field resettable.
- No external effects.
- Possibly autonomous.
- No maintenance, 10 years standby mode.

## Applications

- Human life protection.
- Fire suppression.
- Industrial site protection.
- Oil and Gas pipe line Safety.
- Depressurization of chemical reactor.
- Nuclear Naval safety boilers.
- Deep underwater installations.

**[\\*For more information please contact us.](#)**  
**[Visit our website: www.pyroalliance.com](http://www.pyroalliance.com)**



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# LINEAR SAFETY ACTUATORS

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## Key figures\*

Inner Pipe diameter:	Up to 24 Inches*
Operating pressure:	40 to 280+ bars
Authorized fluids:	Liquid or gas (upstream or downstream side)
Weight:	Configuration dependent
Operating temperature:	Configuration dependent (direct explosive temperature to remain below 90°C)
Operating lifetime:	3 years

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## Electrical specifications\* (when electrically powered)

Total circuit resistance:	1 ± 0.5 ohm
Insulation before firing (when not manually powered):	Circuit/ground > 30 M ohms / 50V
Nominal firing current:	2 A/10 ms
Maximal no-firing current:	200 mA during 1 minute
Test measuring current	≤ 10 mA
Storage lifetime:	5 years

**[\\*For more information please contact us.](#)**  
**[Visit our website: www.pyroalliance.com](http://www.pyroalliance.com)**



### Classification Product

- Number UN: UN0288
- Storage class: 1.1D
- Not restricted by ITAR regulation

**LES MUREAUX PLANT – HEADQUARTERS**  
139, ROUTE DE VERNEUIL - BP 2052  
78132 LES MUREAUX CEDEX - FRANCE  
TÉL. +33 (0)1 34 92 44 44



**TOULON PLANT**  
QUARTIER LAGOUBRAN  
CHEMIN CHARLES BATTEZZATI  
83200 TOULON - FRANCE  
TÉL. +33 (0)4 94 22 86 86

## HEALTH, SAFETY, ENVIRONMENT CERTIFICATIONS

ENVIRONMENT AND PYROTECHNIC  
SAFETY CERTIFYING BODIES



**BUREAU  
VERITAS**

NF EN ISO 14001

## CERTIFICATIONS QUALITÉ



Site de la Touche Tizon

[www.pyroalliance.com](http://www.pyroalliance.com)



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