

## Abstract Piexon AG – Jet Protector technology

Piexon AG has developed a new technological approach in non-lethal weaponry - the launching of an irritant agent by means of a pyrotechnic power drive. The pyrotechnic power drive which is ignited by a mechanical firing pin acts upon a moveable piston that subjects the liquid agent to high pressure creating a fast liquid jet. The liquid agent is forced through a nozzle and emitted as a cone-shaped or aligned jet into the air. In the inactive position the liquid agent is held in a special cartridge by means of a nozzle seal, said nozzle seal will break once a pre-defined nominal pressure is reached. The chain of events in the liquid agent cartridge is as follows:

Pyrotechnical power drive → Piston → Liquid Agent → Nozzle Seal → Nozzle

Having expelled the liquid agent through the nozzle the piston is retained within the cartridge case. Once at the end of the case the combustion gases generated by the pyrotechnic power drive pass around the piston and provide a "blow-out" of the nozzle to clean it from irritant residues.

In comparison to the pressurised canister of the familiar pepper spray this new technological approach has striking advantages:

- It is NOT a pressurised system, it has NO retained pressure in the inactive condition. Therefore:
- There is NO loss of pressure throughout its shelf life
- There are NO failures in operation due to loss of pressure
- There is NO variation of pressure even at the extrem operating temperatures
- Superior performance in terms of stopping power, velocity and range of the liquid irritant jet
- Can be fired in every position and orientation (sprays only work effectively in the vertical position)
- Replaceable cartridges (one cartridge, one shot).
- Operational OC irritant cartridges and practice cartridges for test and training are available.

Compared with conductive energy weapons the Jet Protector technology has the following advantages:

- NO solid parts or fragments being expelled through the nozzle which minimizes risk of injury
- NO electric power supply which could result in a malfunction under extreme climate conditions
- Multi-shot ability
- Low-priced reloads

Based on this platform technology various applications are subject to R&D, for example a multi-shot riot control device with a range of up to 20 meters as well as fix mounted installations, filled with the irritant agent, for the active protection of sensitive goods, military facilities, fences, vehicles, prison cells and the like.

For further informations, please contact :

Mr. Juerg Thomann  
Piexon AG  
Buetzbergstrasse 1  
CH-4912 Aarwangen  
Phone: +41 62 919 91 00  
Fax: +41 62 919 91 01  
E-Mail: [postmaster@piexon.com](mailto:postmaster@piexon.com)  
Web: [www.jetprotector.com](http://www.jetprotector.com)