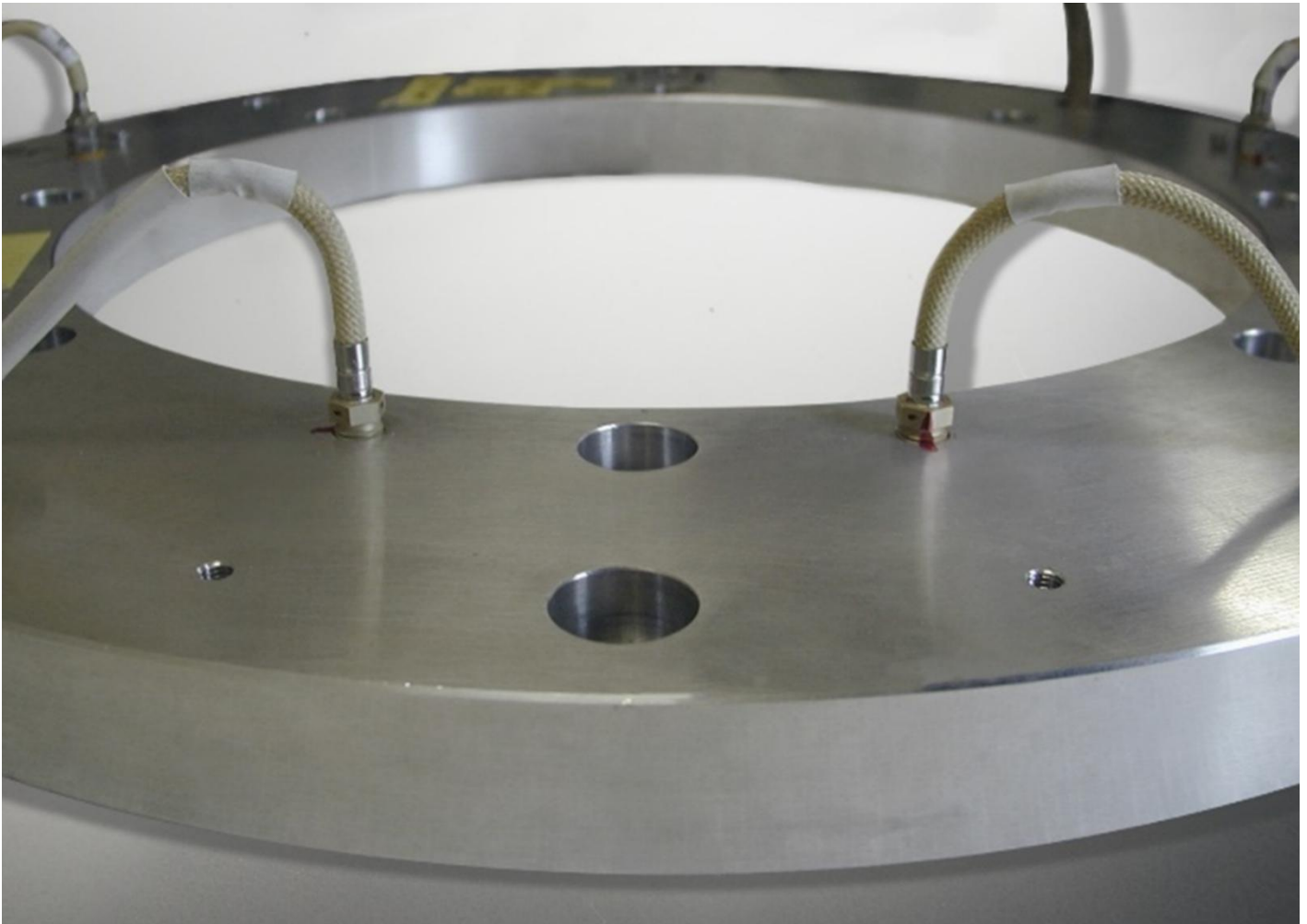




NAVAL

MISSION TERMINATION / STERILIZATION SYSTEMS

Pyroalliance designs and manufactures various kinds of Mission Termination / Sterilization Systems for autonomous naval vessels including torpedoes, Uncrewed Underwater Vehicles (UUVs) and Unmanned Surface Vehicles (USVs).

Their function is to abort or terminate the mission in case the vessel dangerously deviates from its nominal trajectory or does not operate as expected. The complete destruction of the vessel is an option as well as the “sterilization” of the vessel which consists in neutralizing some of its key components, such as preventing any access to sensitive data or any retro-engineering.

Combining elementary bricks of already qualified technologies, Pyroalliance offers a wide range of pyrotechnic options for Mission termination / Sterilization of autonomous naval vessels.

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

MISSION TERMINATION / STERILIZATION SYSTEMS

Operating mode

A Mission Termination / Sterilization System is made of a chain of components designed and assembled to operate a termination / sterilization sequence. It is typically made of an electro-pyro initiator in a Safe & Arm Device, a pyrotechnic line (if necessary) and a charge.

The initiator embarked on the vessel will receive the mission termination / sterilization order from the command center and transmit it through the Safe & Arm Device that will convert it into a detonation activating a linear shaped charge or possibly another form of destruct charge.

Depending on the design of the system, the linear shaped charge or destruct charge will either cut the body of the vessel that will break apart or destroy specifically chosen components of the vessel.

Benefits

- Functioning time of such equipment is extremely short, thus perfectly fitted for the responsiveness expected from a Mission Termination / Sterilization function
- Redundancy and physical separation of two distinct initiation chains usually contribute to the extreme reliability of function
- Appropriate pyrotechnic components are selected to meet the environment constraints – especially temperatures – associated to the mission profile of the considered vessel

Typical performances and features*

Functioning time	Below 10 to 15ms
Reliability	Better than 0,9999 @90% CL
Size, Weight and Power (SWaP)	SWaP adapted to the mission
Initiation	1A/1W Standard STANAG
Firing current	5A – few ms
Non fire current	1A / 1W / 5min at 100°C
Temperatures	Adapted to typical naval military climatic environment
Life Time	Adapted to the mission and life profile

** Typical requirements met by our solutions – however most FTS are designed to specification and subject to customization*

Applications

- Mission Termination or Sterilization function of all kinds of naval vessels including torpedoes, UUVs and USVs...



Classification

- Storage Class typically 1.1D
- Not subject to any ITAR constraint

For more information

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