

MINCOA

The Spanish Advanced Multi – Influence Naval Mine

The naval mines MINCOA and their exercise versions MINEA, are the most advanced naval mines under manufacturing nowadays. The family of MINCOA/MINEA products comprises three kinds of naval mines: cylindrical bottom mine, conical shape shallow water mine and moored deep water mine.

MINCOA/MINEA is equipped with sensors for the detection and processing of all magnetic, electric, acoustic, pressure and seismic influences. A sonar detector is included as well for detection of active sonar emissions. The design and testing of its different versions have been carried out in close cooperation with the Spanish navy, which has contributed with its experience dealing with naval mines and underwater measurement systems.

The main technical characteristics are the following:

- Triaxial magnetic sensor to detect both Static Magnetic (SM) and Alternating Magnetic (AM) signatures.
- Triaxial electric sensor to detect both the static component (Underwater Electric Potential, UEP) and the alternating component (Extra Low Frequency Electric, ELFE).
- Acoustic and active sonar sensors.
- Triaxial seismic sensor (except moored mine).
- Pressure sensor.
- Deployable by submarine through torpedo launch tube (only cylindrical version).
- Controlled via Infrared on surface and by an acoustic link when submerged for underwater control, including fire order.
- Programmable operating parameters, by means of a portable control unit.
- Explosive insensitive type.
- Collection and recording of all influences signals, parameters and events, and self recovery function, are additional performances incorporated to the exercise version.

Extensive sea trials were performed in order to validate the systems and to check the full performances of the mines. The three types of mines have successfully passed the following environmental tests: temperature (storage and operation) according to MIL-STD-810F; shock and vibration according to MIL-STD-810 and MIL-STD-167; electromagnetic compatibility according to MIL-STD-461E and water tightness.



Cylindrical mine version

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 www.saes.com.es

ADVANCED MULTI-INFLUENCE COMBAT NAVAL MINE
MINCOA

Deployable by submarine through torpedo launch tube (cylindrical version)

Acquisition sensors:
 Triaxial magnetic
 Triaxial electric UEP and ELFE
 Acoustic and Sonar
 Triaxial seismic (except moored mine)
 Pressure

Three different versions:
 Cylindrical bottom mine
 Conical shape mine
 Moored mine

Main Capabilities:
 Controlled via infrared on surface or acoustic when submerged
 Programmable operating parameters
 Explosive, insensitive type

conical version

moored version

cilindrica version

ELECTRÓNICA SUBMARINA SAES
 www.saes.com.es

ADVANCED MULTI-INFLUENCE EXERCISE NAVAL MINE
MINEA

Deployable by submarine through torpedo launch tube (cylindrical version)

Acquisition sensors:
 Triaxial magnetic
 Triaxial electric UEP and ELFE
 Acoustic and Sonar
 Triaxial seismic (except moored mine)
 Pressure

Three different versions:
 Cylindrical bottom mine
 Conical shape mine
 Moored mine

Main Capabilities:
 Controlled via infrared on surface or acoustic when submerged
 Programmable operating parameters and self recovery function
 Fire indication: visual (by smoke) and acoustic link
 Collection and recording of all influence signals, parameters and events

conical version

moored version

cilindrica version



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