

MK 56 Guided Missile Vertical Launching System (GMVLS) for the Evolved SEASPARROW Missile



Delivers a lethal self-defense capability against airborne and surface threats.

Benefits

- Specifically designed to launch Evolved SEASPARROW Missile (ESSM)
- Hemispheric coverage
- Modular design allows installation flexibility
- High reliability
- Low life-cycle cost
- No ship services required for environmental control
- Maintenance and logistical support programs in place
- Reusable, lightweight composite canisters
- Provides significant ready-to-launch firepower

Highly Reliable System

The MK 56 Guided Missile Vertical Launching System (GMVLS) delivers — from limited shipboard space — an effective Local Area, hemispherical defense umbrella for own-ship and ships being escorted against aggressive airborne and surface threats. The launching system fires the RIM-162 Evolved SEASPARROW Missile (ESSM), which has proven itself against a broad spectrum of threats in all weather and electronic warfare conditions. These threats include subsonic and supersonic missiles that arrive at very low sea-skimming altitudes or steep dive angles and are aided in their penetration by low radar cross section, evasive maneuvering and electronic jamming. Small surface combatants will also be neutralized by the RIM-162 ESSM.

The MK 56 GMVLS significantly increases the firepower of the ESSM missiles, which can be launched with minimal intervals between each salvo. Because it has no active mechanical parts, such as doors or motors, the highly reliable MK 56 GMVLS also has lower ship maintenance, manning and training requirements. And a reusable lightweight composite canister allows missiles to be easily handled.

Versatile, Compact Design

The MK 56 GMVLS offers an extremely compact and potent weapon system that can be installed aboard all combat vessels, starting with those as small as 500 tons. Its compact design allows it to be distributed at various locations throughout the ship. Like its widely fielded predecessor, the MK 48 GMVLS, the MK 56 can be mounted on deck, in

the deck or on a bulkhead, such as the side of a hangar. Each MK 56 system can be configured to accept from two to 16 ESSMs, depending upon the ship's requirement. If more than 16 missiles are required, additional MK 56 systems can be installed.

As a standalone system, the GMVLS is designed to withstand all weather environments — without any dependency on ship's services. The MK 56 GMVLS configurations can also isolate the missile from shock and extreme green water environments. The MK 56 GMVLS is currently in full-rate production.

MK 56 Guided Missile Vertical Launching GMVLS

MK 56 Launcher Physical Characteristics

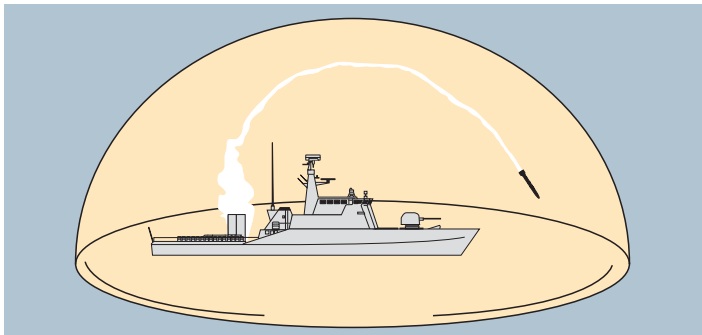
ESSM Missiles	4	12	32
Width (cm)	173	366	477
Depth (cm)	132	271	417
Height (cm)	465	465	465
GMVLS Weight (kg) with Missiles	3,464	10,200	23,859
GMVLS Weight (kg) with Below-Deck Equipment	3,714	10,450	24,359

MK 56 Required Below-Deck Equipment Specifications

Required Equipment	ESSM launch controller (1 per 16 missiles)
Width (cm)	94
Depth (cm)	34
Height (cm)	190
Weight (kg)	250

MK 56 Environmental and Power Specifications

Power (12 cell variant)	
60 Hz, 115 VAC, 1 phase	11 KVA
400 Hz, 440 VAC, 3 phase	4 KVA
Ship Services	
Cooling	Not required
Heating	Not required
Fresh water (fire suppression capability optional)	Not required
Air pressure	Not required
Deluge	Not required
Environmental Summary	
Temperature	
Exposed equipment	
Operating	-20°C to +56°C
Non-Operating	-40°C to +71°C



The MK 56 GMVLS features hemispherical coverage, installation flexibility, high reliability, low life-cycle costs, and maintenance and logistics support programs in place. It also supports high firepower.

Seeker

- Semi-active radar
- Look-down, shoot-down
- Demonstrated performance against sea-skimming missiles in heavy clutter

Guidance Section

- Integrated missile
- Digital missile-borne computer
- Surface-to-surface mode

Warhead

- 39 kg, optimized for anti-ship missiles

Transition Section

- 20.3 cm to 25.4 cm body size
- Fast autopilot computer
- Inertial measurement unit

Strakes (4)

- Aerodynamic performance

Rocket Motor

- 25.4 cm diameter
- Beyond the horizon range

Tail Control Section

- Allows for very high G maneuvers

Thruster Vector Control

- Provides rapid close-in minimum range

RIM-162
ESSM



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