

PROVEN**SOFTKILL**

MASS™ – MULTI AMMUNITION SOFTKILL SYSTEM

MULTISPECTRAL NAVAL PROTECTION

TAKING RESPONSIBILITY IN A CHANGING WORLD

RHEINMETALL







MASS SYSTEM

The Multi Ammunition Softkill System MASS represents an innovative departure in naval electronic warfare. The state-of-the-art system is specifically designed for blue water and littoral operations where systems with quick reaction times are particularly critical. Having proven high effectiveness in various international trials, MASS is ideally suited to meet the changing requirements of modern navies with global responsibilities.

The fully computerized and trainable countermeasure system protects ships from attacks by modern, sensor-guided anti-ship missiles at high seas and in coastal areas as well as from asymmetric, terrorist-type threats. Furthermore, MASS offers significant tactical, operational and logistical advantages. It can be installed on any type of ship, and operates either in stand-alone mode or as an integral part of the ship's networked C4I and weapon engagement systems. Programmable and multispectral, the innovative MASS_OmniTrap ammunition provides protection in all relevant wavelengths of the electromagnetic spectrum (radar, infrared, laser, electro-optic and ultraviolet).

MAIN FEATURES

- Turnkey solution offering multispectral protection
- Fully computerized and trainable launcher with pitch-and-roll compensation
- Easy installation on all ship types due to stealth design, small dimensions, small weight

STATUS

- Since the market launch in 2002, Rheinmetall Defence has booked orders for MASS from the navies of many NATO and non-NATO countries for different ship classes, ranging in size from patrol boats to corvettes and frigates
- MASS is already in service in combat environments
- Proven track record

OPTIONAL

- MASS_ISS with integrated sensor suite, featuring built-in sensors to detect radar, laser and electro-optical threats
- MASS_ATD with Anti-torpedo decoy capability
- MASS_OmniTrap mmW
- MASS_OCR with distraction and seduction capability

MASS STANDARD SYSTEM CONFIGURATION

The configuration is modular and consists of:

- 1–6 trainable launchers
- 1 control unit for each launcher
- 32 multispectral rounds per launcher
- Data interface (Ethernet/RS422 or other standard)

COMPLETE MISSILE DEFENCE	
Blue water warfare	Decoy mode
Littoral warfare	Screening mode
Asymmetric threat	Screening mode

TECHNICAL DATA	
Number of ammunitions	32 per launcher
Stabilization	Pitch-and-roll compensation
Bearing velocity	100°/s (2-axis)
Bearing acceleration	360°/s² (2-axis)
Launcher weight	342 kg
Launcher height	1.1 m
Sweeping radius	1.3 m



STANDARD AMMUNITION

MASS_OmniTrap ER MK2 – Improved performance

MASS_OmniTrap ER is the new generation with extended range and improved flight trajectory for precise decoy deployment against most modern imaging radar and infrared guided threats.

TECHNICAL DATA – MASS_OMNITRAP ER	
Multispectral ammunition	
Calibre	81 mm x 360 mm
Ultraviolet	Solar blind, 0.3 µm – 0.4 µm
Electro-optical	0.4 µm – 1.1 µm
Laser	0.4 µm – 1.5 µm, 10.6 µm
Infrared (IR)	2 µm – 14 µm (two colour)
Radar	I, J, and Ka band
Range	10 m – 400 m
Hazard classification	1.3G



OPTIONAL AMMUNITION

MASS_OCR with distraction and seduction capability

- 118 mm Offboard Corner Reflector rocket
- Ship-like radar characteristics
- Persistence ›60 s
- Colocated and coordinated chaff and OCR possible
- Can be integrated into any existing MASS configuration
- Existing systems can easily be upgraded

TECHNICAL DATA – MASS_OCR	
Overall length of round	1,550 mm
Calibre	118 mm
Total weight	~15 kg
Radar	I, J, and Ka band
Range	50 m to 400 m
	Up to four MASS_OCR per launcher
Hazard classification	1.2C



THE NEW MASS NOVA

MODERN NAVAL PROTECTION, REDEFINED

The new MASS nova (Multi Ammunition Softkill System) heralds a new era in maritime self-protection. Designed from the ground up, it combines state-of-the-art technology with over 25 years of experience in defending against current and future threats. The result is a system that sets new standards in effectiveness, adaptability and ease of use.

FUTURE-PROOF MEETS EXPERIENCE

The new MASS nova has been specially developed to meet the complex challenges of modern threats. These include littoral and hypersonic threats and advanced 5th generation guided missiles with SAR technology. An additional degree of freedom in the system design allows even more flexible responses to changing scenarios.

EFFICIENT, COMPATIBLE, POWERFUL

- 3DDS – new 3-dimensional decoy swarm against 5th generation of anti ship missiles
- Support for new, highly effective ammunition types
- Low-threshold system expansion – a simple upgrade of existing systems
- Full compatibility with existing MASS ammunition
- Very low radar cross section (RCS) for maximum stealth
- Increased ammunition capacity

The new MASS and 3DDS – State-of-the-art countermeasures for a new threat environment. Developed for today's requirements – ready for tomorrow's challenges.



3DDS – 3D DECOY SWARM

THE FUTURE OF DECEPTION

As the latest effector component of MASS nova, 3DDS impresses with a completely new type of threat defence. This fire-and-forget ammunition is based on swarm technology and reproduces realistic ship signatures in the target area – autonomously, effectively and without course or speed adjustments.

INTELLIGENT, AUTONOMOUS, UNCOMPROMISINGLY EFFECTIVE

- Can be launched directly from MASS nova
- Realistic replication of ship signatures through swarm behaviour
- Precise flight to pre-programmed waypoints
- No course or speed adjustments necessary on the ship
- Optional active radiation to defend against anti-radar missiles (ARMs)
- Optimal interaction with hard-kill and soft-kill systems – no self-radiation in the direction of the carrier ship
- Independent of the ship's system – suitable for radio silence operations



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