ARMOURED RECOVERY MODULE ARM

FOR THE BOXER





MORE PUNCH FOR THE BOXER

FFG'S INNOVATIVE RECOVERY MODULE FOR THE BOXER FLEET

The Armoured Recovery Module (ARM) from FFG is turning the BOXER chassis into a BOXER ARV (Armoured Recovery Vehicle), representing the world's latest in armoured support vehicle design. Through its innovative design and with its outstanding performance data, this FFG- design is representing the first truly capable and multifunctional recovery module for this class of medium weight 8x8 platforms.

Making its first public debut at the London/UK DSEi Defence Exposition in 2019, the Recovery Module for the BOXER was independently developed by FFG as a private venture to close a capability gap in the Boxer fleet while meeting the high and rapidly changing demands of mobile forces in the modern battlespace.

The design of the ARM is following the general design principles for the BOXER mission modules, where configurations share a high level of commonality and a standard interface. General on-board equipment such as the protection system against CBRN (Chemical, Biological, Radiological and Nuclear) threats, HVAC etc. are, wherever possible, integrated with common BOXER components to ensure maximum logistic commonality with existing mission modules, reducing the number of specific spares as well as training requirements for personnel significantly.

The recovery module is made from armoured steel and weighs approx. 13 tons. It provides space for two crew members, commander and gunner, while the driver's seat remains in the BO-XER's driving module, with direct access to the recovery module.

The recovery module is connected to the driving module through standard BOXER mechanical interfaces and only requires on-board electricity to charge its own battery suite for operation, which supplies the recovery module with power and drives the hydraulic system.

Due to this semi-autonomous electro-hydraulic design the recovery module can operate, including heavy recovery tasks, even when the chassis' main engine is switched off during silent watch operations. It even can temporarily run completely independent from the chassis.

To ensure safe recovery and lifting operations the ARM deploys its own stabilising support legs and a rear anchor during operations. The hydraulically extendible stabilisers secure the ARM during crane and winch operations and relieve the Boxer chassis of the associated stress at the same time. Furthermore the ARM is able to load or unload itself onto or off the chassis autonomously.

Control and monitoring of all systems is conducted centrally via touchscreen displays and proprietary FFG software. In emergency mode the hydraulics can be operated via manual control.



POWERFUL RECOVERY AND LIFTING CAPABILITIES

When configured as an ARV, the BOXER's role is to provide field support and recover distressed equipment of the same weight class from the battlefield and tow it into a rear echelon field workshop for repair. To accomplish these tasks, the recovery module is equipped with a pivoting boom crane and a powerful recovery winch as the primary tools.

Crane

The ARM features a pivoting crane boom which is 5.3 m long and can lift loads up to 20 tons. It is positioned at the top rear of the recovery module and is operated by the module commander.

With this powerful crane the ARM is able to lift mission modules from the BOXER chassis, enabling reconfiguration of vehicles in theatre without the need for heavy tracked support, truck mounted cranes or specialized civilian support. The recovery module can further perform all common maintenance and recovery tasks such as the changing of power packs, mission modules, and weapon turrets or, for example, the lifting of vehicles for wheel changes under field conditions.

Winch

A modern capstan winch with a pulling force of 200 kN for recovery and self-recovery operations by means of a 60-meter high-tech synthetic fiber rope with very low weight completes the main recovery tools.

Accessories

The recovery module features comprehensive additional capabilities, including cutting and welding equipment, external power supply for the use of power tools, and more.





>>> ADAPTABLE PROTECTION / SELF-DEFENCE

The ARM offers crew protection against mines and ballistic threats, where the protection level of the basic module can be augmented through the use of add-on armour panels.

The comprehensive protection suite for the module's crew include an NBC protection system, air conditioning, automatic fire suppression systems as well as a day and night sensor suite. For self-defence and battlefield surveillance task support the recovery module can be equipped with different types of Remote Controlled Weapon Station (RCWS) combined with different calibre Multi Barrel Grenade Dischargers (MBGDs) for defensive IR / smokescreen according to customer requirements, complementing the module's protection concept.

BOXER'S MODULAR CONCEPT

Artec's BOXER is a multirole armoured vehicle, originally designed by an international consortium to accomplish a variety of operational tasks through the use of installable mission modules.

The key feature of BOXER is its modular design, consisting of two elements: the chassis and the removable mission module. The permanent all-wheel drive 8x8 platform has the driver located front right with the power pack to the left. Onto this chassis an interchangeable mission module can be mounted at the vehicle rear. This allows BOXER to be rapidly configured to meet different operational requirements within approximately one hour, even under field conditions.

With close to 1.000 vehicles already contrac-

ted by several international customers as their premier wheeled armoured platform in various configurations, the BOXER is well on its way to establish itself as the NATO standard vehicle in its class.

Whereas various mission modules already exist to configure BOXER as ambulance, battle damage repair, cargo, command post, engineer group, infantry fighting or troop carrier vehicle, a potent recovery module was missing. FFG's Armoured Recovery Module is now filling this gap and is decisively expanding the possibilities of using the BOXER by adding many new capabilities.

GROWTH POTENTIAL

With FFG's recovery module, user nations can now effectively close a major capability gap within their BOXER fleets, since it enables BOXER itself to carry out all those maintenance and recovery tasks that to date require heavy tracked recovery vehicles or specialist civilian vehicles.

FFG's Recovery Module therefore truly supports the core idea of the BOXER concept – modularity, which enables BOXER to select and manage its mission modules autonomously and quickly, exactly as the mission demands. With its high tech computerized control system and latest technology in electrical power supply, as well as the flexibility of the module layout, FFG's ARM offers sufficient growth potential for adaptation to customer requirements well into the future.



TECHNICAL DATA

>>	Dimensions	Support Anchor	~
	Length: 7100 mm Width: 3000 mm Height: 2450 mm (without weapon station) Weight: 13000 kg (approx.)	Height: 400 mm Width: 2950 mm hydraulically operated	
>>	Power Supply	Additional Equipment (Option Examples)	~
	24V Electro-hydraulic drive powered by Lithium-Ion battery pack (special protected)	Lifting accessories Cutting and welding station Hydraulic power tools Pneumatic power tools Driver assistance with integrated camera	
>>	External Power Output	solution	
	6,5 kVA (400V) / 3,5 kVA (230V)		
		Protection	~
>>	Crane	Spall liner	
	Type: Pivoting, fixed boom Lifting capacity: 200 kN (20 t) Boom length: 5300 mm Max reach: ~4000 mm Max elevation: 60 °	Add-on Armour (AoA) plates Mine protection seats Boxer CBRN system Remote Controlled Weapon Station (RCWS; optional)	
	Max lifting height: ~6200 mm		
		Module-to-Chassis Interfaces	*
>>> 	Recovery Winch Type: Capstan Traction power: 0 - 200 kN (20 t) Cable length: 60 (70) m Cable diameter: 22 mm	Standard mechanical Boxer module inter- face Electrical connection to vehicle generator	

Contact us to discuss how we can help you.



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