

MVMMDS

MECHEM VEHICLE MOUNTED METAL DETECTION SYSTEM



The MECHEM Vehicle Mounted Metal Detection System (MVMMDS) incorporates a CASSPIR Mine Protected Vehicle (MPV) as the system carrier and utilizes a magnetic pulse induction metal detection system for the detection of metal objects under the ground surface.

The CASSPIR (MPV) is one of the first commercially built Mine Protected Vehicles (MPVs) in the world – and still is a world leader in its class.

The MVMMDS uses an electronic pulse induction metal detection system with sensors mounted on a durable non-metallic (rubber) draw-mat that is drawn behind a suitable Mine Protected Vehicle (MPV).

The draw-mat is towed behind the vehicle and can be configured to be drawn in the centre or to the left- or right side of the vehicle. This versatile repositioning option makes the detection system ideal for roadside sweeping operations.

The rear-mounted detection suite is motivated by operational experience proving the inefficiency of any forward mounting of the sensors. The MPV protects the crew against any injury/death in the event of a mine blast – and any damage to the vehicle can be quickly/economically repaired.

The system comprises three basic elements. The first is the actual electronic detection, the second the signalling and record capacity and lastly the physical marking of the position of the detected item with white marking fluid on the ground.

System Operation

The detection coils are mounted on foam rubber mats that are positioned on to the rear end of the draw-mat.



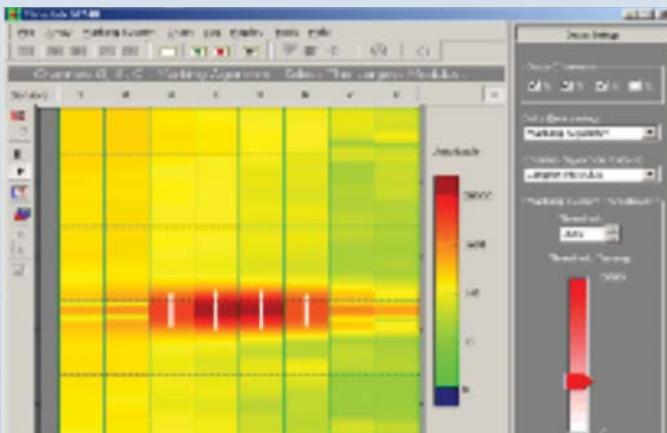
Draw Mat with Marking Nozzles at the rear

Upon detection of a metal object, an electronic signal is sent to the control console inside the vehicle.



Control Console inside the Vehicle

The signal is displayed as a computer generated image to the operator. The system also records all signals.



Computer Generated Image

At the same time a signal is passed onto the marking system and the ground is marked in real time with white bio-degradable marking fluid over the exact position of the detected metal object.



Bio-degradable marking

Operational History

MECHEM has successfully used the system on UN Contracts in the Sudan and Eritrea and thousands of ki-

lometers of roads has been cleared in these countries.

System Performance

The system has been operationally proven on MECHEM contracts over the world. It has a proven ability to detect anti-tank landmines such as the TM 46 and TM57 at a depth of 1,200-mm in rocky shale soil and at speeds of up to 20 km/h (although it is never used at this speed). The standard search path is 2,200-mm wide. This width can be increased to 3,000-mm if the terrain/road allow this.

The preferred speed for the system is 5 km/h. At this speed the MVMMSD has no difficulty to accurately detect and mark TM46 and TM57 anti-tank mines at the depths mentioned. The system can detect and mark minimum metal mines (i.e. containing at least eight grams of metal) at depths of up to 200-mm.

The draw-mat can be deployed in 3 to 5 minutes and is carried on the roof of the vehicle when not used for detection. Under ideal conditions the system can cover 40,000 to 100,000-m² per day.

Repair and Maintenance

The detection and marking systems are modular in nature and can be mounted in most production type MPV's. Similarly repair to the system is modular and field repair friendly.

Transporting the MVMMSD

When the system needs to be relocated or transported over longer distances the vehicle mounted transportation frame is used. The draw-mat is drawn onto its transportation frame with a remotely controlled winch mounted on the frame.

Mounting interfaces between the transportation frame and carrier vehicle can be supplied on request.

