

ELECTRONICS DIVISION

# VULCANO 155

GUIDED AND UNGUIDED LONG RANGE  
155 MM AMMUNITION



A Joint Program with

**DIEHL**  
Defence

Vulcano 155mm is a family of subcalibre ammunition for 155mm Land artillery systems composed by an unguided projectile called BER (Ballistic Extended Range) and a guided one called GLR (Guided Long Range). They represent the most advanced technology currently available for precise land artillery firings.

The Vulcano projectile is specifically conceived and realized to improve the performance of other ammunition of the same calibre, both in range and accuracy, while maintaining compatibility with the in service propelling charges and 155mm barrels. The outline of the ammunition is almost identical to that of conventional rounds, which enables it to be handled without any additional logistical burden.

The main application of the Vulcano 155 GLR is for long range, high accuracy fire support against stationary and moving point targets with extremely reduced likelihood of collateral damage.

The outstanding aerodynamics, coupled with the GPS guidance and trajectory shaping capabilities, enable the

Vulcano 155 GLR to reach a max range of 70km while keeping an extreme accuracy of less than 5m within all operational ranges.

The shell is filled with IM explosive and it is made up of specific patented pre formed tungsten rings, enabling an extremely high effectiveness against soft and lightly protected targets; the detonation trigger is generated by a Radio Frequency programmable fuse capable of various functionalities, such as: altimetric, instantaneous and delayed impact. When the RF fuse is replaced with the dedicated Semi Active Laser (SAL) sensor, the ammunition can also effectively engage laser designated targets (forward observer required), stationary and moving, with further improved precision with respect to pure GPS guidance.

Moreover, the possibility of programming the final attack angle of the projectile to up to 90° (that is, vertical fall) against the target enables the maximization of both warhead effectiveness and guidance accuracy, as well as minimizing the likelihood of detection of projectile in flight by the enemy's defence systems.

The Vulcano 155 ammunition, both BER and GLR, have been qualified according to the relevant STANAGs under joint Italian and German MoD supervision.

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## KEY FEATURES

- Higher range, extending the conventional artillery operative ranges up to three times;
- Higher precision at any range;
- Less collateral damages;
- Minimization of engagement cost;
- Capability to nullify Target Location Error (TLE) for stationary and moving targets (with SAL Seeker)
- State of the art Insensitive Munition (IM) design.

## TECHNICAL DESCRIPTION

### BALLISTIC EXTENDED RANGE (BER)

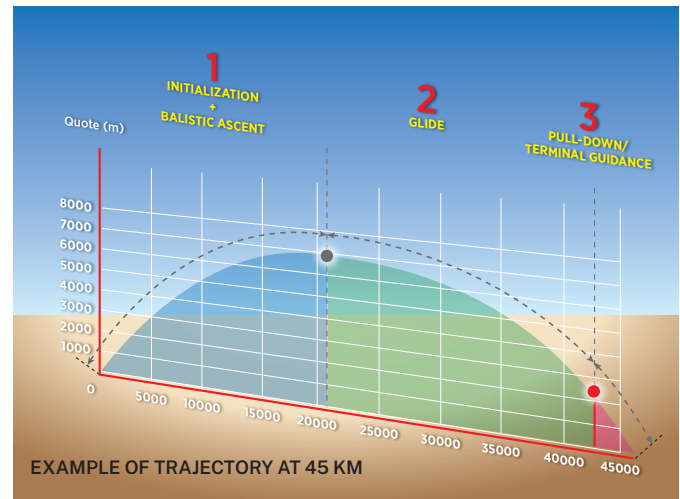
- 155/52 cal range up to 50 km
- 155/39 cal range up to 36 km
- Multifunctional Fuze
- Altimetry
- Impact/Delayed impact
- Time
- Notched HE warhead
- Ballistic accuracy

### GUIDED LONG RANGE (GLR)

- 155/52 cal range up to 70 km
- 155/39 cal range up to 55 km
- Autonomous IMU + GPS guidance;
- CEP  $\leq$  5m on coordinate at any operative range;
- SAL terminal homing with CEP  $\leq$  3m on target at any operative range;
- Precise bombardment firing;
- Notched HE warhead.

### VULCANO PROGRAMMING UNIT (INTEGRATION KIT) AND PORTABLE FIRE COMMAND UNIT (STAND ALONE)

- Fire Command Computer
- GPS Key Storage interface device (GPS-KID)
- GPS-Receiver
- Programming Device
- Fire Command / NABK
- JBMoU compatible



The flight sequences of the 155mm ammunition type encompass a Ballistic Flight Path (1) involving Initialization and GPS Acquisition, a Glide Path (2) with Mid-Course GPS Navigation and Terminal Guidance (3) with GPS or SAL mode, depending on the configuration.



VULCANO Programming Unit (Integration Kit) and portable Fire Command Unit (stand alone)



Height of Burst    Instantaneous Impact    Delayed Impact    Accuracy



VULCANO ammunitions

VULCANO 155 GLR Packaging

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