

## Earth-Rite® MGV

### Mobile Ground Verification System

The **Earth-Rite®** Mobile Ground Verification system (MGV) is a unique, patented technology designed to provide automatic confirmation of a positive electrostatic ground connection for trucks collecting and transferring flammable / combustible products.

Vacuum trucks and tank trucks, including their hoses and hose connections, are susceptible to static charge accumulation during the transfer of product into or out of the truck's containment system. This accumulation of static charge is equivalent to a hidden source of ignition and if discharged as a static spark can lead to the ignition of the product or the atmosphere in which the truck and material handling team is operating.

To eliminate the risk of incendive static spark discharges the **API standard 2219: Safe Operation of Vacuum Trucks in Petroleum Service** recommends that vacuum truck operators transferring flammable and combustible product in hazardous locations must fully ground the truck prior to any other task in the transfer operation by connecting the truck to a "proven ground source". The Earth-Rite MGV is designed to enable operators establish safe grounding of their vehicle in accordance with this standard.



The Earth-Rite MGV static grounding system can be mounted on vacuum trucks and tank trucks.



The Earth-Rite MGV static grounding system enables operators demonstrate compliance with the API 2219 standard.

### Typical Grounding Applications:

**Cleaning & material recovery** operations for on-site cleaning of storage tanks and chemical spills.

**Transporting chemicals** to various stages of production on chemical manufacturing sites.

**Transporting flammable** product to external sites where installed grounding systems are not present or have not been verified by the supplier.

**Hazmat Recovery** operations recovering flammable spillages following transportation and loss of containment incidents.



IECEx



SIL 2



The Earth-Rite MGV system performs two system checks which ensures the vehicle can dissipate static charges for the duration of the transfer process.

## 1. Static Ground Verification:

The MGV system ensures the connection resistance of the object that is identified as the ground source to earth, is low enough to safely dissipate static charges from the truck.

## 2. Continuous Ground Loop Monitoring:

When the Static Ground Verification process is confirmed, the MGV system continuously monitors the connection resistance of the truck to this verified grounding point for the duration of the transfer process. This connection resistance must be maintained at 10 ohms (or less) for the duration of the transfer process.

**Two output contacts** located in the control unit of the MGV system can interlock with pumps or other control devices to prevent transfer operations should a static ground connection fail to be established or maintained for the transfer process.

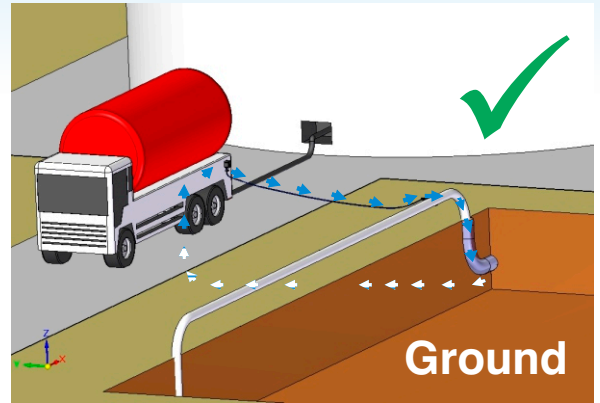
## Easy and quick Operation:

Removing the need for taking manual resistance readings or interacting with complex system interfaces the operator activates the system by simply connecting the system's grounding clamp to a site designated grounding point, buried metal structure (pipes, storage tanks) or temporary points like buried grounding rods.

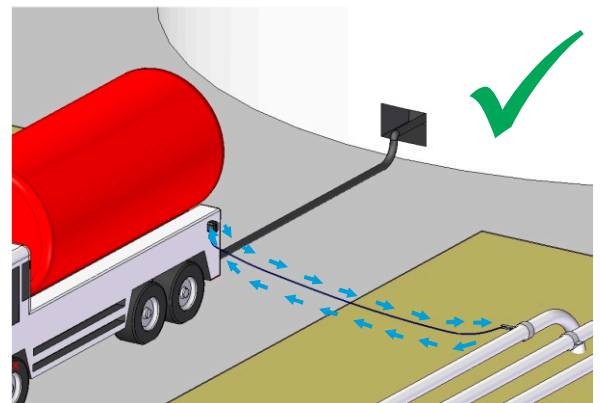
When the **Static Ground Verification** and **Continuous Ground Loop Monitoring** checks are positive, a cluster of attention grabbing green LEDs pulse continuously informing the operator that the truck is securely grounded.



Quick release static grounding clamp supplied with the Earth-Rite MGV attached to buried rod.



Static Ground Verification check



Continuous Ground Loop Monitoring check

## System Installation:

- The MGV system is powered by the vehicle's primary 24V or 12V battery supply with the control unit mounted on the truck chassis.
- The system can be interlocked with the on-board pump, vehicle mounted strobe lights or audible alarms to provide material handlers with additional levels of security.

<b>Certification</b> <b>SIL 2</b>	
<b>Ingress Protection</b> IP66 / NEMA 4, 4X, 7	<b>Certified Temperature Range</b> -40°C to +55°C - ATEX -13°F to +122°F - CSA
<b>Power Supply</b> 12V or 24V DC	

The Earth-Rite MGV forms part of the Earth-Rite range of Static Grounding and Bonding Equipment available from Newson Gale