Frozenfire Portable Ground Monitor

Product Description



The FROZENFIRE Portable Ground Monitor is a lightweight, self-supporting, high-performance firefighting monitor designed for rapid deployment in emergency fire suppression operations. It provides a stable and powerful water or foam stream without requiring continuous manual holding, making it ideal for industrial facilities, petrochemical plants, airports, refineries, marine applications, fire brigades, and municipal firefighting.

Manufactured from high-strength corrosion-resistant materials, the monitor features a foldable tripod base for excellent stability and quick setup on uneven surfaces. It is equipped with a manually adjustable nozzle capable of delivering a solid jet or protective fog pattern, ensuring maximum firefighting efficiency while minimizing operator fatigue.

Its compact and portable design allows firefighters to quickly transport and position the monitor wherever high-flow fire protection is required.

Working Principle

The Frozenfire Portable Ground Monitor operates by converting the pressure energy of water supplied through one or more fire hoses into a controlled, high-velocity stream for effective firefighting. Its self-supporting design allows continuous operation without requiring firefighters to manually hold the nozzle.

Step-by-Step Working Principle

1. **Water Supply**
   - Pressurized water from a fire hydrant, fire pump, or fire vehicle enters the monitor through the inlet coupling(s).
   - The monitor is designed to handle high-flow water while maintaining low pressure loss.
2. **Flow Distribution**
   - Water passes through the monitor body and swivel assembly, which allows smooth horizontal and vertical movement without interrupting flow.
   - The streamlined internal passage minimizes turbulence, ensuring maximum discharge efficiency.
3. **Nozzle Operation**
   - The water reaches the attached fire nozzle, where the flow pattern is controlled by the nozzle mechanism.
   - Depending on the nozzle setting, the discharge can be:
     - Straight Jet: Produces a concentrated, long-range stream for attacking fires from a safe distance.
     - Fog Spray: Produces finely divided water droplets for cooling, exposure protection, and vapor suppression.
4. **Monitor Stability**
   - During operation, the reaction force generated by the high-pressure discharge is absorbed by the monitor's sturdy body and foldable stainless-steel support legs.
   - The wide tripod base ensures stability and prevents movement, allowing unattended operation once properly positioned.

FROZENFIRE INDUSTRIES LLP
Factory Office:
Plot No.C-73, Maruti Industrial Park, Naroda Memco Road,
Opp. Naroda Fire Station, Ahmedabad–382324, INDIA
Email: info@frozenfire.in
Website: www.frozenfire.in

5. **Directional Control**
    - The operator manually adjusts the monitor in horizontal and vertical directions to accurately direct the water stream toward the fire.
    - This enables precise firefighting while maintaining a safe distance from the hazard.
6. **Continuous Fire Suppression**
    - The monitor provides a continuous, high-capacity discharge of water or foam solution until the water supply is shut off.
    - It is suitable for prolonged firefighting operations where consistent flow and reliable performance are essential.

Working Advantages

- Rapid deployment with minimal setup time.
- Stable operation without continuous manual support.
- High discharge efficiency with low friction loss.
- Adjustable stream pattern for multiple firefighting scenarios.
- Safe operation by allowing firefighters to work at a greater distance from the fire.
- Compatible with both water and foam solution for Class A and Class B fire protection.

This operating principle makes the Frozenfire Portable Ground Monitor an ideal solution for industrial firefighting, petrochemical facilities, airports, marine applications, fire brigades, and emergency response teams where reliable, high-flow fire suppression is critical.

Key Features

- Lightweight and portable construction for rapid deployment
- Foldable stainless steel support legs for maximum stability
- Compact design for easy transportation and storage
- Suitable for water and foam firefighting applications
- Adjustable nozzle with straight stream and fog pattern
- Smooth horizontal and vertical movement
- Rugged corrosion-resistant body with durable red epoxy finish
- Low reaction force design for safe operation
- Compatible with standard fire hose couplings
- Maintenance-free swivel mechanism with long service life
- Designed for continuous operation under demanding conditions

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Typical Applications

- Oil & Gas Facilities
- Petrochemical Industries
- Chemical Plants
- Airports
- Marine & Offshore Platforms
- Fire & Rescue Services
- Power Plants
- Fuel Storage Terminals
- Warehouses
- Industrial Fire Protection Systems

Technical Specifications *(Typical)*

Parameter	Specification
Flow Capacity	**1880 LPM**
Working Pressure	**7–14 Bar**
Inlet Connection	**2 × 2½" Instantaneous / BS / Storz / NST (Optional)**
Outlet Nozzle	**Constant or Selectable Flow Nozzle**
Stream Pattern	**Straight Jet / Fog**
Horizontal Rotation	**360°**
Vertical Movement	**+30° to +80°**
Body Material	**Aluminum Alloy / Gunmetal (Optional)**
Support Legs	**Stainless Steel Foldable Tripod**
Finish	**Red Epoxy Powder Coated**
Weight	**Approx. 8–15 kg (Model Dependent)**

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Operation Procedure

1. Preparation

- Inspect the monitor, nozzle, legs, and couplings for any damage.
- Ensure all support legs open completely and lock securely.
- Connect the fire hose using compatible couplings.
- Position the monitor on firm, level ground whenever possible.

2. Deployment

- Spread the tripod legs fully for maximum stability.
- Aim the monitor toward the fire area before opening the water supply.
- Ensure personnel remain clear of the discharge path.

3. Operation

- Slowly open the water supply to avoid sudden pressure surges.
- Adjust the nozzle for:
    - Straight stream for maximum reach.
    - Fog pattern for cooling and personnel protection.
- Direct the stream toward the base of the fire.
- Continuously monitor the monitor's stability during operation.

4. Shutdown

- Gradually close the water supply.
- Release residual pressure.
- Disconnect hoses.
- Fold the support legs.
- Drain any remaining water before storage.

Maintenance Procedure

After Every Use

- Flush the monitor thoroughly with clean water.
- Remove dirt, sand, foam residue, or chemicals.
- Dry the monitor before storage.
- Inspect all couplings and seals.

Weekly Inspection

- Check all bolts and fasteners.
- Verify smooth nozzle operation.
- Inspect foldable legs for proper locking.
- Check swivel joints for free movement.

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Monthly Maintenance

- Lubricate all moving joints and swivel mechanisms.
- Inspect O-rings and replace if worn.
- Check inlet couplings for leaks or damage.
- Verify nozzle pattern adjustment.

Annual Maintenance

- Perform hydrostatic pressure testing according to applicable standards.
- Replace worn seals and gaskets.
- Inspect body casting for cracks or corrosion.
- Repaint damaged coating if required.
- Conduct a full functional performance test.

Safety Precautions

- Ensure the monitor is securely positioned before pressurization.
- Never stand directly in front of the nozzle during operation.
- Open the water supply gradually to minimize reaction force.
- Do not exceed the rated working pressure.
- Use appropriate personal protective equipment (PPE).
- Inspect the equipment before each use.
- Always operate the monitor with trained personnel.

Standard Supply

- Portable Ground Monitor
- Fire Fighting Nozzle
- Foldable Stainless Steel Legs
- Inlet Couplings
- Pressure Gauge (Optional)
- Operation & Maintenance Manual
- Factory Test Certificate

Frozenfire Advantage

The Frozenfire Portable Ground Monitor combines portability, rugged construction, and high-flow firefighting performance. Designed for quick deployment and reliable operation in demanding environments, it delivers effective water or foam application while reducing firefighter fatigue and ensuring maximum operational safety.

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