Frozenfire HVLR Monitor (High Volume Long Range Monitor)

Fixed Flow / Variable Flow

Product Overview



The FROZENFIRE HVLR (High Volume Long Range) Monitor is a heavy-duty manual-operated fire-fighting monitor in **Fixed Flow and Variable Flow** specifically designed to deliver exceptionally high water and foam flow rates over long distances for the protection of high-risk industrial facilities. Engineered for demanding fire protection applications, the HVLR Monitor provides rapid suppression of large-scale fires involving flammable liquids, hydrocarbons, petrochemical products, LNG/LPG installations, tank farms, aircraft hangars, marine terminals, and other hazardous industrial environments.

Manufactured using high-strength corrosion-resistant materials and precision-engineered internal waterways, the Frozenfire HVLR Monitor ensures maximum hydraulic efficiency with minimal pressure loss. The monitor can discharge either water or aspirated/non-aspirated foam streams through a compatible monitor nozzle, providing superior firefighting performance during emergency situations.

Its rugged construction, smooth operating mechanism, and excellent rotational capability allow operators to accurately direct powerful water or foam streams over extended distances while maintaining complete control. The monitor is suitable for both fixed installations and integration into industrial fire protection systems.

Working Principle

The Frozenfire HVLR Monitor receives pressurized water or premixed foam solution from the fire water distribution network. The firefighting media enters the monitor body through the flanged inlet and passes through streamlined waterways designed to minimize hydraulic losses.

Using the manual handwheel controls, the operator can precisely adjust both the horizontal (azimuth) and vertical (elevation) movements of the monitor to accurately target the fire. The attached monitor nozzle converts the pressurized water or foam solution into either a straight stream, fog pattern, or foam discharge depending on the nozzle type selected.

The high-energy stream provides excellent reach, allowing firefighters to attack fires from a safe distance while maintaining effective cooling, vapour suppression, and fire extinguishment.

Construction Features

The Frozenfire HVLR Monitor is manufactured with a robust industrial design for reliable operation under severe service conditions.

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Frozenfire HVLR Aqua Foam Nozzle – Fixed Flow

The Frozenfire Fixed Flow HVLR (High Volume Low Range) Nozzle is designed to deliver a predetermined discharge rate with a consistent, high-quality spray pattern. It provides reliable water distribution for firefighting, exposure protection, cooling operations, and dust suppression. The fixed-flow design ensures stable hydraulic performance without the need for flow adjustment, making it ideal for applications requiring dependable and repeatable operation.

Key Features:

- Fixed discharge flow for consistent performance
- Uniform spray pattern with excellent water distribution
- Rugged corrosion-resistant construction
- Low maintenance and long service life
- Suitable for industrial, municipal, and fire vehicle applications
- Compatible with water monitors and hydrant systems



Frozenfire HVLR Aqua Foam Nozzle – Variable Flow

The Frozenfire Variable Flow HVLR (High Volume Low Range) Nozzle is engineered to provide adjustable flow rates while maintaining an efficient spray pattern. Operators can easily select the required flow according to fire conditions, optimizing water usage and firefighting effectiveness. Its versatile design makes it suitable for a wide range of industrial firefighting and cooling applications.

Key Features:

- Adjustable flow settings for operational flexibility
- Efficient water distribution with controlled spray pattern
- Smooth flow adjustment without interrupting operation
- Durable corrosion-resistant construction
- Ideal for changing firefighting requirements
- Compatible with manual and remote-controlled water monitors
- Low maintenance and reliable field performance





Available Type of Aqua Foam Nozzles

The Frozenfire HVLR Monitor is available in various Types of Nozzles including:

Nozzle Type	Size (MM)	Flow Capacity GPM
Fixed Flow	50 / 63 / 75 / 100 / 150	250 to 2000
Variable Flow	75	500-750
	100	500-750-1000
	150	1000-1500-2000

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Operating Features

The Frozenfire HVLR Monitor provides precise manual control through independently operated handwheels.

Horizontal Rotation

The monitor offers smooth 360° continuous rotation, enabling complete coverage of protected areas without repositioning the installation.

Vertical Movement

The elevation mechanism allows the monitor to move from below horizontal to high elevation angles, enabling both direct fire attack and elevated cooling applications.

Manual Gear Drive

The worm gear drive system ensures effortless operation with minimal input force while maintaining accurate positioning under high reaction forces.

Stream Control

Depending on the installed nozzle, the operator can produce:

- Straight Jet Stream
- Adjustable Fog Pattern
- Wide Protective Fog
- Foam Stream
- Variable Flow Selection

The assembly generally consists of:

- Heavy-duty monitor body with streamlined waterway
- Horizontal swivel mechanism
- Vertical elevation mechanism
- Stainless steel operating handwheels
- Precision worm gear drive system
- Stainless steel shafts and bearings
- Low-friction sealing arrangement
- Flanged inlet connection
- Flanged or threaded nozzle outlet
- Drain valve
- Locking arrangement for monitor positioning
- Corrosion-resistant epoxy-coated finish
- Stainless steel fasteners

The monitor body is designed to withstand high operating pressures while ensuring smooth movement with minimum operator effort.

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HVLR FOAM MONITOR

Key Features

- High-volume water and foam discharge
- Long-range firefighting capability
- Manual operation with precision handwheel control
- Smooth horizontal and vertical movement
- Low operating torque
- Streamlined waterway for reduced pressure loss
- Suitable for both water and foam applications
- Robust industrial construction
- Corrosion-resistant epoxy coating
- Stainless steel operating components
- Reliable performance under harsh environmental conditions
- Easy installation and maintenance
- Long operational life

Performance Advantages

- Excellent throw distance for maximum firefighter safety
- High hydraulic efficiency
- Accurate fire targeting
- Rapid suppression of large fires
- Uniform foam application
- Reduced manpower requirement
- Stable operation under high flow conditions
- Minimal maintenance
- Reliable emergency operation
- Heavy-duty industrial design
- Suitable for continuous outdoor installation

Performance Benefits

The Frozenfire HVLR Monitor offers outstanding firefighting performance by combining high discharge capacity with excellent stream quality. Its optimized hydraulic design reduces internal pressure losses, ensuring maximum flow reaches the nozzle. The long-range stream allows operators to fight fires from safer distances while maintaining effective cooling and extinguishing capability.

The monitor's precision gearing provides smooth movement even under high operating pressure, allowing rapid response and accurate targeting during emergency situations.

Applications

The Frozenfire HVLR Monitor is widely used in:

- Oil Refineries
- Petrochemical Plants
- Chemical Processing Industries
- Tank Farms
- Fuel Storage Depots
- Aviation Fuel Facilities
- LNG & LPG Terminals
- Offshore Platforms
- Marine Jetties
- Manufacturing Facilities
- Port Facilities
- Power Plants
- Steel Plants
- Warehouses
- Aircraft Hangars
- Defence Installations
- Fire Stations
- Municipal Fire Protection Systems
- Industrial

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Compatible Nozzles

The monitor can be supplied with:

- Automatic Water Nozzle
- Adjustable Fog Nozzle
- Smooth Bore Jet Nozzle
- Air Foam Aspirating Nozzle
- Self-Inducing Foam Nozzle
- Master Stream Nozzle
- Variable Flow Nozzle

Why Choose Frozenfire HVLR Monitor?

- High-volume, long-range firefighting performance
- Rugged construction for industrial environments
- Smooth and precise manual operation
- Compatible with water and foam systems
- Corrosion-resistant finish for extended service life
- Low maintenance with reliable long-term operation
- Manufactured to international quality standards
- Ideal for critical fire protection applications in oil & gas, petrochemical, aviation, marine, and heavy industries

Inspection and Testing

Every Frozenfire HVLR Monitor undergoes rigorous quality inspections and performance testing before dispatch, including:

- Dimensional inspection
- Hydrostatic pressure testing
- Operational movement test
- Rotation and elevation verification
- Leak testing
- Coating thickness measurement
- Visual inspection
- Functional performance testing

Available Sizes

The Frozenfire HVLR Monitor is available in various inlet sizes including:

Model Number	Monitor Size (MM)	Flow in GPM	Water Jet in Meters	Horizontal Throw (Foam) in meters
FIL/HVLR/50/WFM	50	250	45	35
FIL/HVLR/63/WFM	63	500	55	45
FIL/HVLR/75/WFM	75	500 / 750	60	50
FIL/HVLR/100/WFM	100	1000	65	55
FIL/HVLR/150/WFM	150	2000	70	60

(Custom Sizes also available on demand)

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Typical Technical Specifications

Parameter	Specification
Product	HVLR (High Volume Long Range) Fire Monitor
Manufacturer	Frozenfire Industries LLP
Type	Manual Operated Fire Monitor
Application	Water & Foam
Material Body	Carbon Steel / Stainless Steel
Swivel Joints	Stainless Steel / Gun Metal
Nozzle	Aluminum / Stainless Steel / Gun Metal
Surface Finish	Epoxy Primer with Fire Red / Luminous Yellow Polyurethane Coating
Inlet Connection	ANSI / IS Flanged
Outlet Connection	Compatible with Monitor Nozzles
Rotation (Horizontal)	360° Continuous
Elevation	-45° to +90° (Typical)
Operating Pressure	Up to 12 Bar (Model Dependent)
Flow Capacity	1,000–7,500 LPM (Depending on Model)
Maximum Throw Distance	Up to 120 m (Depending on Nozzle & Pressure)
Operating Method	Manual Handwheel
Suitable Media	Water, Foam Solution
Installation	Fixed Platform, Fire Hydrant Network, Skid Mounted, Mobile Units

Quality Assurance

Each Frozenfire HVLR Monitor is manufactured under strict quality control procedures using precision machining and high-grade materials. Every unit undergoes dimensional inspection, hydrostatic pressure testing, operational movement checks, coating thickness inspection, and functional testing to ensure reliable field performance. Designed in accordance with internationally accepted firefighting practices, the monitor offers dependable operation in the most demanding industrial fire protection applications.

Frozenfire Industries LLP – Delivering Reliable Fire Protection Solutions Through Engineering Excellence.

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