



Methane Gas Drainage Stub Fire Suppression System

Ensure unparalleled safety in underground coal mines with our cutting-edge Fire Detection and Suppression System designed specifically for methane gas drainage stubs.

Fire & Safety Industries
Global Fire Solutions
www.fireandsafety.com.au





Engineered to meet the rigorous demands of mining environments, this modular system integrates state-of-the-art technology with robust safety protocols to reduce the consequences of fires.

Key Features

1. Proven Detection & Automatic Activation:

- Thermal detection triggers quick response sprinkler heads with a 68°C activation point, swiftly initiating water discharge from the Wet Line Sprinkler System.
- Hydraulically piloted Deluge valve ensures immediate deployment of firefighting water supply to the system's nozzle array.

2. Specialised Water Mist Technology:

- Fog nozzles with integrated rotors provide superior coverage, effectively cooling irregular surfaces of methane gas drainage stubs.
- The water droplets are simultaneously directed at a wide angle to provide a protective curtain, as well as forward allowing for greater reach.
- Water mist technology optimizes suppression by displacing oxygen with water vapor and attenuating radiant heat, ensuring rapid fire containment.

3. Manual Activation:

- Manual Release (MR) Stations at key locations allow for immediate manual activation, providing enhanced operational flexibility and response capabilities.
- Remote activation is provided outside of the Explosion Restricted Zone (ERZ).

4. Automatic Gas Shut-Off Valves:

- Automated closure of Fire Rated Stainless Steel Methane Gas shut-off valves upon system activation prevents methane from fuelling fires.

5. Compliance and Reliability:

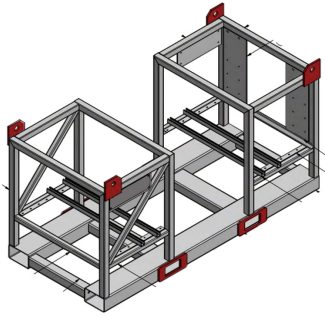
- There is no specific Australian Standard for the design and installation of fire suppression systems for underground methane gas drainage stubs.
- Designed generally in accordance with AS4587-1999 and NFPA 750 standards, ensuring adherence to industry best practices and regulatory requirements.
- Engineered maintenance processes guarantee system reliability, minimising downtime and enhancing long-term operational efficiency.

Benefits

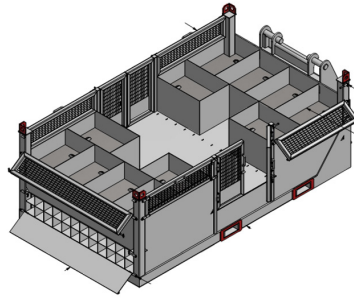
Enhanced Safety: Minimizes the consequences of fire events at methane gas drainage stubs, safeguarding personnel and infrastructure.

Operational Efficiency: Streamlines response capabilities with automated and manual activation options, optimizing emergency management strategies.

Environmental Adaptability: Tailored modular design accommodates the challenging conditions of underground mining, ensuring effective performance in diverse operational environments.



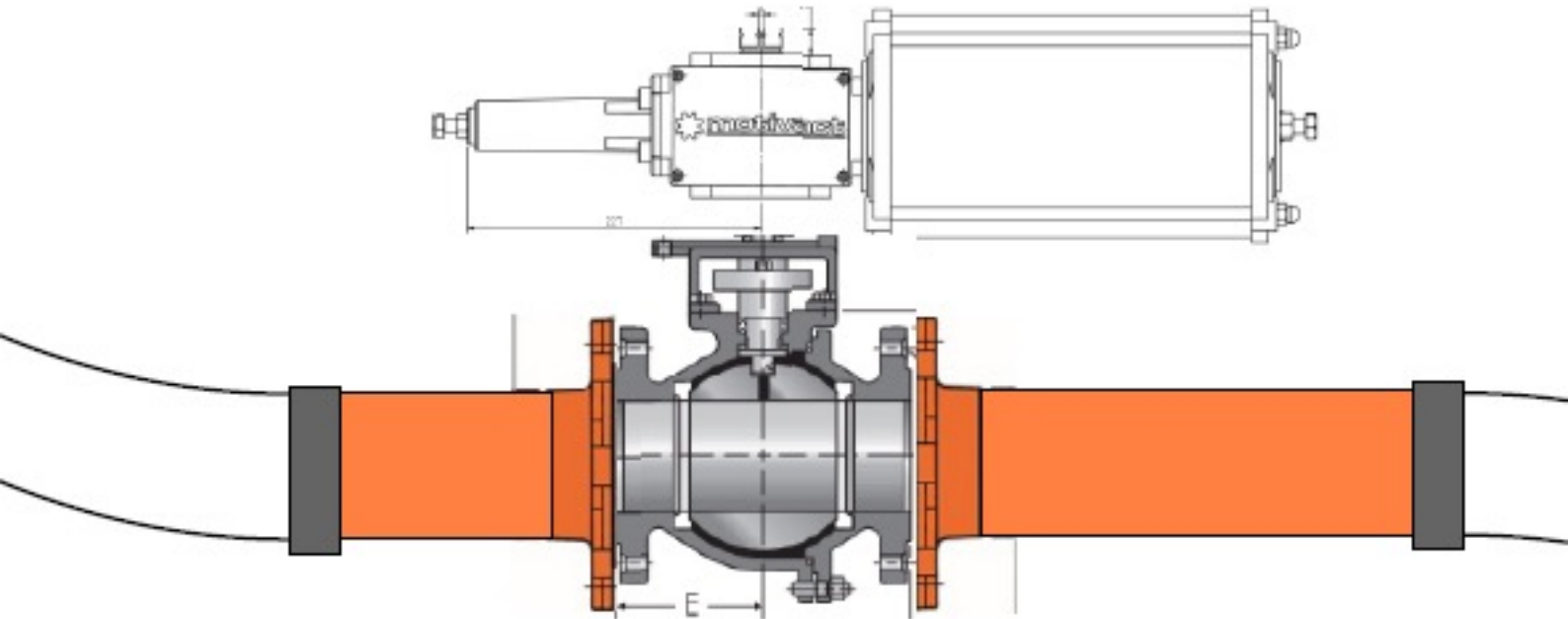
Engineered valve assembly skid



Engineered QDS Transport Pod



Engineered valve assembly skid



Methane Gas Isolation Valve

The fire system incorporates fire rated stainless steel ball valves equipped with spring-close actuators which are installed in the flexible methane gas drainage lines where the hoses enter the stub. During a fire event within the risk area and upon automatic activation of the fire suppression system, a universal relay valve (URV) and mechanical relay recognise a loss of pressure in the wet line detection system, and in turn vents the air supply to all the gas shut-off valves. All valves then close shut via spring close functionality preventing the continued feed of methane gas into the risk zone.

The gas shut-off valves can also be isolated via gas shut-off Manual Release (MR) stations located remote of the ERZ.



The FSI Advantage

Expertise and Innovation: Developed by Fire & Safety Industries in collaboration with leading fire engineers, leveraging extensive industry knowledge and cutting-edge technology.

Proven Reliability: Trusted by major mining operations for its robust design, compliance with safety standards, and ability to deliver consistent performance under critical conditions.

Contact Us Today

Discover how our Fire Suppression System can elevate safety standards and operational efficiency in your underground coal mine. Contact our experts to discuss your specific requirements and explore customised solutions tailored to your needs.

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