Protect Your Ship with Advanced HFC-227ea Fire Suppression Systems

Our Product Introduction

Basic Information

- Place of Origin: Guangzhou,China
- Brand Name: RUIGANG
- Certification: CCS/BV/ISO
- Model Number: QMQ2.5/XXN-RG
- Minimum Order Quantity: 1 set
- Price: Negotiable
- Packaging Details: Plywood outer box with bubble bag or paper
- Delivery Time: 10-15 working days
- Payment Terms: T/T,L/C
- Supply Ability: 500 set per month

Product Specification

- Storage Pressure: 2.5MPa
- Max Operating Pressure (at +50°C): 4.2 MPa
- Min Operating Pressure (at 0°C): 2.0 MPa
- Filling Density: ≤1.12kg/L
- Cylinder Volume: 2/4/8/10/20/30/40/70/90/120/150/180 (L)
- Nitrogen Starting Cylinder Volume: 4L
- Design Concentration (Volume): ≤10%
- System Activation: Electric, Pneumatic, Emergency Manual
- Color: Red
- Highlight: **Ship Fire Suppression Systems**

Product Description

Marine HFC-227ea Fire Suppression System

1. Overview

The Marine HFC-227ea Fire Suppression System is a state-of-the-art fire protection solution designed specifically for use in marine environments. It is engineered to provide effective and reliable fire suppression in high-risk areas aboard ships, including engine rooms, boiler rooms, electrical compartments, and battery rooms. This system uses HFC-227ea (also known as FM-200), a clean, non-toxic, and environmentally friendly fire extinguishing agent that is highly effective in suppressing fires without leaving harmful residues.

2. Application Range

The Marine HFC-227ea Fire Suppression System is versatile and can be deployed to suppress several types of fires, including:

Electrical Fires: HFC-227ea is ideal for use around electrical equipment as it is a non-conductive agent, minimizing the risk of secondary electrical damage.

Flammable Liquid Fires: The system is highly effective for suppressing fires involving flammable liquids or combustible gases.

Surface Fires on Solids: The system can also suppress surface fires on various solid materials commonly found in ship compartments.

This system is suitable for areas where fire risks are high, and quick, efficient suppression is essential to protect both personnel and valuable shipboard equipment.

3. Key Features

The Marine HFC-227ea Fire Suppression System offers several notable features that make it a preferred choice for marine fire safety:

High Reliability: The system is designed to operate flawlessly under various conditions. Its components are built to withstand the demanding maritime environment.

Clean Agent: HFC-227ea is a clean agent, meaning it does not leave residues after discharge, reducing the need for cleanup and preventing damage to equipment.

Fast Response Time: The system is designed to release the fire suppression agent quickly and efficiently, minimizing fire damage.

Three Control Modes: The system offers three different methods for activation—pneumatic, electrical, and emergency manual control—ensuring reliable operation even in the event of power loss or other emergencies.

Environmental Safety: HFC-227ea has a low environmental impact, with minimal global warming potential, making it a safer choice compared to other fire suppression agents.

4. System Composition

The Marine HFC-227ea Fire Suppression System consists of a variety of components that work in unison to ensure effective fire suppression:

HFC-227ea Cylinders: These cylinders store the fire suppression agent at high pressure. The system is designed to offer various cylinder sizes, which can be selected based on the specific fire protection needs of the ship.

Cylinder Valve Assemblies: These components are responsible for controlling the release of the fire suppression agent from the cylinders.

Discharge Hoses: The hoses carry the fire suppressant from the cylinders to the nozzles, where it is dispersed throughout the protected area.

One-Way Liquid Valves: These valves allow the fire suppression agent to flow in one direction, ensuring the proper delivery of the agent to the nozzle.

Collection Manifold: A central point that collects and distributes the fire suppressant agent from multiple cylinders to ensure even distribution.

Pneumatic Control Valves: These valves control the flow of the agent and are triggered by pneumatic pressure.

Electrical Activation System: A control panel and wiring system that allows the system to be activated electronically in the event of a fire.

Remote Discharge Stations: Locations throughout the ship where the system can be activated remotely, allowing for quick intervention even if the fire is not immediately visible.

Nozzles: These components are strategically placed throughout the protected area to distribute the fire suppressant evenly.

5. Working Principle

The working principle of the Marine HFC-227ea Fire Suppression System is based on the rapid release of HFC-227ea into the protected area, which suppresses the fire through a combination of heat absorption and chemical interference with the combustion process.

When a fire is detected, the system is activated via the chosen control method (electric, pneumatic, or manual). The fire suppression agent is then released from the cylinders into the distribution network, where it flows through the discharge hoses and is expelled through nozzles positioned in the area at risk. The agent works quickly to cool the fire, reduce oxygen levels, and disrupt the chemical reactions that sustain the fire.

One of the main advantages of HFC-227ea is its ability to suppress fires in enclosed spaces without damaging sensitive electronic equipment. It is an ideal solution for marine environments, where the integrity of electrical and electronic systems is crucial.

6. Technical Specifications

Model	QMQ2.5/XXN-RG	QMQ4.2/XXN-RG	QMQ5.6/XXN-RG
Storage Pressure	2.5 MPa	4.2 MPa	5.6 MPa
Max Operating Pressure (at +50°C)	4.2 MPa	5.3 MPa	6.7 MPa
Min Operating Pressure (at 0°C)	2.0 MPa	3.6 MPa	4.6 MPa
Filling Density	≤1.12 kg/L	≤0.95 kg/L	≤1.12 kg/L
Cylinder Volume	HFC-227ea Cylinder (L): 2/4/8/10/20/30/40/70/90/120/150/180	Nitrogen Starting Cylinder (L): 4	
Design Fire Extinguishing Concentration (Volume)	≤10%		
Activation Methods	Electric, Pneumatic, Emergency Manual		
Note	"XX" in the model represents cylinder volume		

7. Cylinder Specifications

The system is equipped with high-quality pressure cylinders that store HFC-227ea. The cylinders come in various volumes to suit the specific requirements of the ship's fire suppression needs. Below are the specifications of the cylinders available for use:

Cylinder Volume (L)	Cylinder Type	Max Operating Pressure	Thread Connection
2	Seamless Steel	8 MPa	PZ27.8
4	Seamless Steel	8 MPa	PZ27.8
8	Seamless Steel	8 MPa	PZ27.8
10	Seamless Steel	8 MPa	PZ39
20	Seamless Steel	8 MPa	PZ39
30	Seamless Steel	8 MPa	PZ39
40	Seamless Steel	8 MPa	PZ39
70	Seamless Steel	8 MPa	PZ56
90	Welded Steel	5.6 MPa	PZ56
120	Welded Steel	5.6 MPa	M64X2
150	Welded Steel	5.6 MPa	M80X2
180	Welded Steel	5.6 MPa	M80X2

8. Conclusion

The Marine HFC-227ea Fire Suppression System is an essential safety solution for ships, ensuring rapid and effective fire suppression in critical areas. Its clean agent, fast activation, and reliable operation provide peace of mind for ship owners and crew members alike. With flexible control options and advanced technology, this system helps protect both human lives and expensive equipment from the devastating effects of fire.

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