

Explosion proof overhead crane for hazardous areas

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Explosion proof single girder overhead crane

In hazardous environments where flammable gases, vapors, dust, or fibers are present, the safety and reliability of lifting equipment are crucial. Our explosion proof overhead crane is specifically engineered to operate seamlessly in such high-risk areas, eliminating the risk of ignition and ensuring the safety of personnel, equipment, and valuable assets. As a professional explosion proof overhead crane manufacturer, we adhere to strict international and domestic safety standards, integrating advanced explosion-proof technology and robust structural design to provide a lifting solution that combines efficiency, durability, and absolute safety.

Core Advantages of Our Explosion Proof Overhead Crane



Explosion proof double girder overhead crane

1. Advanced Explosion-Proof Design

The core of our explosion proof overhead crane lies in its comprehensive explosion-proof protection. All electrical components, including motors, reducers, controllers, and limit switches, are designed with explosion-proof enclosures that meet Ex d (flameproof) or Ex ia (intrinsically safe) standards, depending on the hazardous area classification. This design prevents sparks, arcs, or high temperatures generated during operation from igniting the surrounding flammable substances, ensuring the [overhead crane](#) can work safely in Zone 1, Zone 2 (for gas environments), and Zone 21, Zone 22 (for dust environments).

2. High Reliability and Durability

Constructed with high-quality materials and precision manufacturing processes, our explosion proof overhead crane is built to withstand the harsh conditions of hazardous areas. The main beam and end beams are made of high-strength steel, after strict welding and heat treatment to ensure structural stability and load-bearing capacity. The crane's components are resistant to corrosion, wear, and extreme temperatures, reducing maintenance frequency and extending the service life of the equipment.

3. Efficient and Precise Operation

Equipped with a high-performance explosion-proof motor and a precision gearbox, the explosion proof overhead crane offers smooth and efficient lifting and traversing operations. The variable frequency drive (VFD) system allows for stepless speed regulation, enabling precise positioning of heavy loads, which is essential for delicate operations in hazardous areas. The crane's operating system is user-friendly, with both ground control (remote control) and cab control options available, ensuring convenient and safe operation for operators.

4. Comprehensive Safety Protection Systems

In addition to the explosion-proof design, our explosion proof overhead crane is equipped with a full range of safety protection devices to prevent accidents. These include overload protection, which automatically cuts off the power when the load exceeds the rated capacity; upper and lower limit protection for the lifting mechanism, preventing overtravel; emergency stop buttons at multiple positions, allowing for immediate shutdown in case of emergency; and anti-collision devices, avoiding collisions between cranes or with other objects in the workshop.

Explosion Proof Overhead Crane Applicable Hazardous Areas

Our explosion proof overhead crane is widely used in various industries where hazardous substances exist, including but not limited to:

- Petrochemical industry: Refineries, chemical plants, oil depots, where flammable gases (such as methane, ethylene) and vapors are present.
- Mining industry: Coal mines, metal mines, where flammable gas and dust (such as coal dust) are generated during mining and processing.
- Pharmaceutical industry: Pharmaceutical factories producing flammable solvents or powders, such as ethanol, acetone.
- Grain and food processing industry: Flour mills, grain storage facilities, where grain dust can form explosive mixtures.
- Paint and coating industry: Paint factories, spraying workshops, where flammable paint vapors are present.

Explosion Proof Overhead Crane Technical Parameters

Parameter	Specification
Rated Lifting Capacity	1 ton - 50 tons overhead crane
Span	6m - 30m
Lifting Height	3m - 20m
Lifting Speed	0.5m/min - 10m/min (stepless adjustable)
Travelling Speed (Crane)	5m/min - 30m/min
Travelling Speed (Trolley)	3m/min - 15m/min
Explosion-Proof Grade	Ex d IIC T4/T6, Ex ia IIC T4/T6 (for gas); Ex tD A21 IP65 T80°C (for dust)
Working Class	A3 - A6
Power Supply	380V/50Hz (customizable for different regions)

Safety Certification and Quality Assurance

Our explosion proof overhead crane has passed a series of strict quality and safety certifications, including CE, ATEX, IECEx, and national explosion-proof product certification. We implement a comprehensive quality management system from raw material procurement to production, assembly, and testing, ensuring that each crane meets the highest safety and performance standards. Before delivery, every explosion proof overhead crane undergoes rigorous load testing, explosion-proof testing, and operational testing to ensure it is in perfect condition.

Customized Solutions and After-Sales Service

We understand that different hazardous areas have unique requirements. Therefore, we offer customized explosion proof overhead crane solutions based on the customer's specific working environment, load capacity, span, and other requirements. Our professional technical team will provide on-site surveys, design, and installation guidance to ensure the crane is perfectly adapted to the customer's needs.

In addition, we provide comprehensive after-sales service, including regular maintenance, spare parts supply, and technical training. Our after-sales team is available 24/7 to respond to customer inquiries and solve any problems encountered during the operation of the crane, ensuring the long-term stable and safe operation of the equipment.

If you are looking for a reliable explosion proof overhead crane for your hazardous area, please contact us today. We will provide you with the most suitable solution and professional services to protect your workplace safety and improve operational efficiency.

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