

Intelligent Retarding Agent Spraying System

OVERVIEW

This system is a network-based intelligent control system for underground retarding agent spraying. It enables automatic feeding, proportioning, and spraying.

The system collects real-time data such as flow rate, pressure, and operating status, and allows remote command transmission and data processing through computer terminals, mobile apps, including fault alarms, pressure display, and system start/stop control.

KEY FEATURES

• High-Performance Retarding Agent Pump

The system employs a retarding agent pump with features such as low noise, compact size, long service life, and simple maintenance. Multiple power options are available, with a maximum power of up to 160 kW, meeting various underground working conditions. Pump pressure and flow rate can be infinitely adjusted.

• Hydraulic-Driven Feeding System

The feeding device is hydraulically driven, with a retarding agent storage capacity of approximately 1 ton (customizable according to customer requirements). It is equipped with a weighing system for automatic, quantitative feeding, including a material-shortage alarm and an automatic reverse function in the event of a blockage.

• Large-Capacity Mixing Tank

Mixing tank capacity: 6 m³. Equipped with an automatic hydraulic mixing system, a weighing system, and a water metering system. The system automatically adjusts water addition based on preset parameters. Features include corrosion resistance, uniform mixing, and high proportioning accuracy.

• Adaptive Flow Regulation

The system automatically adjusts the flow rate according to the number of active spray nozzles.

-Fewer nozzles → reduced output flow

-More nozzles → increased output flow

This ensures constant pressure operation and stable spraying performance.

• Intelligent Remote Control

The system supports command transmission and data acquisition via a computer and a mobile app. Functions include fault alarms, pressure display, and remote start/stop control.

• Multiple Spraying Modes Available

Optional spraying configurations include:

-Fixed spray nozzles

-Telescopic spray heads

-Rotary spray heads

Suitable for a range of underground roadway spraying requirements.

• Customizable Technical Parameters

System technical parameters can be customised based on actual underground working conditions.

SYSTEM COMPOSITION

The system mainly consists of:

- Retarding Agent Pump Station
- Automatic Feeding Device
- Mixing Tank
- Retarding Agent Delivery Pipeline
- Spraying Device
- Electrical Control System

3D SYSTEM LAYOUT DIAGRAM

