



EXPLOENERGY

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**BULK
EMULSION PLANT**

ENERGETIC INNOVATION

EXPLOENERGY AUSTRALIA PTY LTD
24 Egerton St, Silverwater, NSW 2128 Australia
E: sales@exploenergy.com.au

EXPLOENERGY.COM.AU

BULK EMULSION PLANT

With advanced static emulsification technology and continuous production, the EXPLOENERGY bulk emulsion plant is used for continuous, automatic manufacturing of bulk ammonium nitrate based emulsion. The EXPLOENERGY bulk emulsion plant is capable of production capacities up to 30 metric tonnes per hour.

The complete control system of the EXPLOENERGY bulk emulsion module includes power control, PLC control system, video recording, various sensors, and controllers. It is suitable for indoor applications in extremely cold areas. The plant includes frequency conversion control on the oxidizer phase, fuel phase system, emulsion system, mass flowmeter, and PID closed loop control on flow and temperature. Oxidizer phase and fuel phase are strictly controlled according to the formulation and emulsion matrix ensuring stability and quality.

Production alerts and interlock protection on over temperature, over pressure, liquid level, and density, with recorded data and video, saved and displayed in the office through the system network.



TECHNOLOGY ADVANCEMENT

HIGH LEVEL OF INTRINSIC SAFETY

The static emulsification system has the following features:

- Open-type rotary pump with maximum speed of 600 rpm and maximum linear velocity of 7.7m/s;
- Convenient capacity adjustment, there is no temperature rise during emulsification. Mechanical energy is transferred to emulsification energy, which eliminates heat accumulation in traditional rotary emulsification units.
- Application length of static mixer is only 8cm. Mixing elements consist of 24 layers with distance less than 1mm (far less than critical diameter of explosion and emulsion thickness (12mm) on steel belt); the mixer is also a detonation trap and could trap detonation between upstream process and downstream process.
- Burst discs on matrix transfer pipes will release pressure in over pressure conditions.
- Interlock systems on product level, pressure, and temperature.
- An emulsion matrix can be provided if required. The Bulk Emulsion Plant can be configured to approved and licensed customer formulations.



FIGURE 1: STATIC EMULSIFICATION SYSTEM

LARGE CAPACITY AND HIGH QUALITY

Production capacity is adjustable up to 30t/h.

An EXPLOENERGY provided high quality emulsion produced from macromolecule emulsifier of excellent bump resistance performance and long shelf life can be provided. Please request further information if required.



FIGURE 2: STATIC MIXER

ENVIRONMENTAL FRIENDLY AND ENERGY SAVING

Lower fuel phase and oxidizer phase temperatures: oxidizer phase temperature: 75-85 degrees, fuel phase temperature: 50-65 degrees. The bulk emulsion plant is a low energy and steam consumption plant. The stir pot power is a low 3kw depending on production rate set up.

ACCURATE METERING AND RELIABLE OPERATION

The bulk emulsion plant uses a mass flowmeter to track and measure oxidizer and fuel phase ratios. Interlock protection systems for over temperature, over pressure, overload, medium break, motor phase loss and liquid level limits are set in key control system equipment. The plant includes video monitoring and hard disc recording systems.

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