



## MIGHTY PUMP

The MIGHTY PUMP system is a compact, air driven Mobile Processing Unit (MPU) designed to manufacture EZIPUMP DV® (a booster sensitive bulk emulsion) from Ammonium Nitrate Emulsion (Class 5.1, UN3375) with the addition of chemical gassing agents.

### APPLICATION

The MIGHTY PUMP bulk emulsion delivery system is designed for development and production charging in underground mining and quarry applications. The MIGHTY PUMP has the ability to deliver a range of densities and allows owners to take full control of their emulsion explosives charging.

### FEATURES AND BENEFITS

- Customer owned, easy to use bulk emulsion delivery system
- Inherent safety pumping system with no safety interlocks required
- Ability to load a range of bulk emulsion densities
- Can load long up-holes from bottom up
- Can load solid sensitised or gas sensitised emulsion
- Emulsion tanks can be tailored to individual customers requirements
- Low maintenance
- Driven by compressed air
- Manual control system to enable monitoring data logging
- Compact design allows for rapid mobilisation
- Can be mounted to customer's existing mining equipment
- Self-priming into emulsion tank
- No water dilution as no water ring is required
- Low capital and running costs

### PHYSICAL PROPERTIES

Description	MIGHTY PUMP
Emulsion capacity (kg)	500 to 5000
MIGHTY PUMP average empty mass (kg)	850
MIGHTY PUMP average dimensions (W x L x H) (m)	1.1 x 1.1 x 1.3 (or to suit customer requirements)
Emulsion delivery rate (kg/min)	up to 35
Loading hose length (m)	up to 15
Loading hose outer diameter (mm)	32
Pumping systems operating pressure (Bar)	17
Water tank capacity (kg)	Not needed



Water injection rate (%)	Not needed
Trace 1 tank capacity (kg)	30kg – up to 10 loads
Trace 2 capacity (kg)	30kg – up to 10 loads
Emulsion density ranges (g/cc)	0.8-1.2
Air supply requirements (Pressure Bar)	6
Air supply requirements (Flow cfm)	60
Number of safety interlock systems required	0

### STORAGE AND HANDLING

The EZIPUMP DV® used by the MIGHTY PUMP is classified as a class 5.1 dangerous good in its ungasged state and can therefore be transported and stored as such. The MIGHTY PUMP sensitises the EZIPUMP DV® with EZIGASSER during loading of emulsion into the boreholes.

### SAFETY

The MIGHTY PUMP has eliminated the need for complex, expensive, regularly calibrated safety devices to monitor the safe operating ranges of the equipment. The technology uses a diaphragm pump to load the emulsion which completely eliminates the possibility of operating at high pressures and temperatures (The leading causes of unintended explosions and accidents). The need to operate at pumping pressures close to the Minimum Burning Pressure of low water content emulsions is eliminated.