

TTT Truck

Technical Information



Description

The 17.1 tonne TTT is a Mobile Processing Unit (MPU) designed to provide a complete range of bulk explosive products direct to the blasthole. The truck consists of a Volvo FM series 8x4 cab chassis with a nominal 5,800mm wheel base with segregated product bins, pump and auger systems mounted on the back.

The truck is designed to incorporate large product bins to maximise the carrying capacity and thereby minimise turnaround times. Discharge rates are optimised for 150mm diameter and greater blastholes.

Raw materials carried in the bins are as follows:

- Ammonium Nitrate Prill
- Diesel Fuel
- TITAN® Series Emulsion
- Water
- Gassing Chemicals

Properties

Products

The range of bulk explosives available from the truck comprise ANFO, Heavy ANFO to wet condition emulsion blends.

Product

ANFO
Heavy ANFO
Gassed Heavy ANFO
Gassed Emulsion
Solid Sensitised Emulsion

Discharge Method

Auger discharge
Auger discharge
Auger discharge
Down hole pump
Down hole pump

Safety Systems

Low pressure and high pressure detection are provided on the discharge of the emulsion and product pumps. On detection of no flow or high pressure during normal running, the pumps are stopped immediately and the control system within the cab warns the driver.

An emergency stop is provided at the main panel in the cab and on the end of the discharge auger.

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Nominal Capacities

	Bin/Tank	Flow Rate min – max
AN	9,200kg	100 – 1,000kg/min
Fuel Oil	800kg	6 – 75kg/min
Emulsion	7,100kg	100 – 400kg/min
Trace N17	120kg	0.1 – 1.5kg/min
Trace N33/L3	120kg	0.1 – 1.5kg/min
Product Pump		100 – 400kg/min

Control Systems

A complete in-cab control system is provided. The main panel (photo below left) is mounted to the driver's left and contains all safety shut downs, indicators and flow and rate indicators. It is supplemented by a right-hand side remote panel (photo below right) for frequently used controls. It is mounted in a position based on ergonomic principles which allows the operator full control of the loading functions without twisting of the back or neck.



Cab Chassis

The cab chassis selected for this application is a Volvo FM Series 8x4. This has been selected due to its combination of load carrying capacity, highway drivability and off road tractability. The chassis has been proven over years of service. The axle ratings allow a large capacity to be carried on the mine site -

Front Axle:	15 Tonnes
Rear Axle:	26 Tonnes

Transmission is a VT 2514B 14 speed gear box with 12 forward, 2 crawler and 2 reverse speeds. Rear axles RTH2610B with 4 planetary gear hub reduction with a 3.76:1 final drive ratio give good low speed tractability. Tyres are Bridgestone 8.25 x 22.5. These are standardised across the fleet and are mounted on ISO 10 stud rims.

Vehicle History

The standard TTT Truck has been developed over a number of years of product experience in both Australia and overseas. The current standard truck has been established as a benchmark design within Dyno Nobel's global operations.

The current fleet size of the TTT units in DNAP exceeds 90 units in operation. The process and control equipment are fabricated and supported through three vendors IEE, Varley and Tradestar.

The units are directly supported under DNAP's SAP based maintenance planning, scheduling and controlling system. The DNAP TTT design meets all licensing requirements.

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