

# Flameless Nitrogen Pumper



## *Safe*

**No Open Flame required to heat liquid nitrogen prior to pumping**

## *Efficient*

**Heat retrieved from exhaust, engine water coolant**

**and excess horsepower**

**Units are able to travel on 75% road bans carrying 3000scm**

## *Clean*

**No Open Flame means no uncontrolled combustion**



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# Specifications Flameless Nitrogen Pumper

Patent Pending

## Truck

Kenworth	12X2 (Tridrive)
Chassis	300
Engine	Cummins ISX 600
Electrical	12 Volt
Transmission	Fuller RTL0189188
Front Axle	DANA SPICER EFA-20F4 20K
Rear Axle	DANA SPICER TDS583P
Ratio:	4.33
Diff Lock	TDS583P
Tires/Wheels	FR. 425/65R22.5 20PR
RR 11R24.5 14PR	
Frame	11-5/8 X 3/8"
Fuel Tanks	150 US GAL 24.5 Al.
Air Equipment	Air Dryer: Bendix AD-9
Nylon Air Tubing	
All Valves Bendix	

## Nitrogen

### Storage

Tank Volume	3000 gal liquid N <sub>2</sub> / 7700 m <sup>3</sup>
Insulation	Vacuum and glass insulated
Plumbing	Stainless Steel

### Pumping

Max Pressure	10,000 psi / 70 mpa
Max Flow	85 m <sup>3</sup> /min
Pump	Triplex

0-85 m<sup>3</sup>/min

Cold ends	1.625"
Boost Pump	1.5" X 2.5" X 6"
Valves	Autoclave

### Heat Exchange

Exhaust	Air Glycol Exchanger
Excess Horse Power	Dynamic Heat Generator
Water Jacket Heat	Heat Exchanger

### Control

Heat Control	Electronic Control
Pressure Control Shut Down	Adjustable Automatic Max Pressure
Flow Control	Electronic Hydraulic Stoker

### Treating Iron

46m of 1"x 70 MPa

## Power Delivery

Power Transfer	600 HP Tower
Triplex Drive	
Hydraulic Pump	135 cc 6000 psi close loop pump system
Hydraulic Motor	270 cc 6000 psi double close loop motor
<i>Boost Pump, Water Pump and Valving</i>	
Hydraulic Pump	105 cc 6000 psi open loop pressure compensated
	Auxiliary pump
Motors	Bent Axis and linear motors

## Control Cab

Size	48"X92"
	Access door on driver's side
Panel	15" X88"
Gauges	
Pressure	Triplex Drive Hydraulic
	Triplex Drive Charge
	Auxiliary Main
	Power End Lube
	Water Main
	Boost
	High Pressure N <sub>2</sub>
	Tank
Temperature	Hydraulic Oil
	Power End Oil
	Coolant Circuit

## Controls

Flow Control	Reostat
Valve Actuation	Toggle switch
	Automatic Mode
Heat Control	Toggle Switch
	Automatic Mode

## Electronics

Power Source 12 volts  
Auto heat control  
Auto engine load

## Safety Features

Automatic Heat Control  
Over Pressure Shutdown  
Low Temperature Heat Transfer  
Full view of pressure equipment from operators Console

## Lighting

Fixed movable floodlights for all working areas

## Pup Trailer

Pintle hitch hookup  
3000 gal liquid N<sub>2</sub> / 7700m<sup>3</sup>  
Air brakes