

# Nitrogen and Industrial Gas Systems



**Stewart & Stevenson**



**Building For The Next Century**



## Widest Range of Nitrogen Pumping Equipment in the Industry

Quality engineered well-servicing products manufactured by Stewart & Stevenson have supported the worldwide oil and gas industry since the 1950s. Today, our Nitrogen and Industrial Gas Systems feature the widest range of nitrogen pumping equipment in the industry.

Stewart & Stevenson manufactures nitrogen pumping units in fired and non-fired (heat recovery) versions for both onshore and offshore use.

Heat recovery versions employ a unique method of loading the diesel engine, indirectly providing the heat required to vaporize liquid nitrogen. Standard units are available in 90K and 180K SCFH versions capable of pumping pressures of 15,000 psi. Heat recovery versions can be built to DNV standards with sound attenuating enclosure to 83 dBA for use in Zone II hazardous environments.

Direct fired versions use electronic controls and advanced hydraulics to develop modern, fired nitrogen pumps. Available in 540K, 660K, and 1270K SCFH, these units are equipped with high horsepower engines to provide maximum performance in stimulation treatments.

Stewart & Stevenson also manufactures noncryogenic gaseous nitrogen generation units using membrane technology. In areas of the world where liquid nitrogen is not readily available, they are used for:

- Traditional Coiled Tubing Work
- Foam Cementing and Fracturing Applications
- Underbalanced Drilling
- Nontraditional Nitrogen Floods in Depleted Reservoirs

### STEWART & STEVENSON NITROGEN UNITS

Model	NS-91-NF	NS-181-NF	NT-181-NF
Vaporization Type	Heat Recovery	Heat Recovery	Heat Recovery
Maximum Discharge Rate	90,000 scfh (2458 m <sup>3</sup> h)	180,000 scfh (5097 m <sup>3</sup> h)	180,000 scfh (5097 m <sup>3</sup> h)
Maximum Discharge Pressure	10,000 psi (15,000 optional)	10,000 psi (15,000 optional)	10,000 psi (15,000 optional)
Carrier Type	Stewart & Stevenson Oilfield Skid	Stewart & Stevenson Oilfield Skid	Stewart & Stevenson Trailer
Carrier Drive Configuration	N/A	N/A	Tandem or Tridem Air Ride
Size: L × W × H	14'0" × 8'0" × 8'6"	14'0" × 8'0" × 8'6"	39'0" × 8'6" × 13'6"
Engine	MTU DD Series 60	MTU DD Series 60	MTU DD Series 60
Engine Rating	500 bhp	600 bhp	600 bhp
Maximum Ambient Operating Temperature	122 °F / 50 °C	122 °F / 50 °C	122 °F / 50 °C
LN <sub>2</sub> Tank	N/A	N/A	3000 gallon
Pump Drive	Closed Loop Hydraulic	Closed Loop Hydraulic	Closed Loop Hydraulic
Cryogenic Pump	Triplex	Triplex	Triplex
Data Acquisition System	Optional - Stewart & Stevenson DaqPaq	Optional - Stewart & Stevenson DaqPaq	Optional - Stewart & Stevenson DaqPaq



NC-181-NF	NC-362-NF	NT-661-DF	NC-661-DF	NT-1201-DF
Heat Recovery	Heat Recovery	Direct Fired	Direct Fired	Direct Fired
180,000 scfh (5097 m <sup>3</sup> h)	360,000 scfh (10,194 m <sup>3</sup> h)	660,000 scfh (20,388 m <sup>3</sup> h)	660,000 scfh (20,388 m <sup>3</sup> h)	1,270,000 scfh (36,000 m <sup>3</sup> h)
10,000 psi (15,000 optional)	10,000 psi (15,000 optional)	10,000 psi (15,000 optional)	10,000 psi (15,000 optional)	10,000 psi (15,000 optional)
Kenworth, Mercedes Benz, or Other Truck Chassis	Kenworth, Mercedes Benz, or Other Truck Chassis	Stewart & Stevenson Trailer	Kenworth, Mercedes Benz, or Other Truck Chassis	Stewart & Stevenson Trailer
6×4, 6×6, 8×4, 8×6, or 8×8	6×4, 6×6, 8×4, 8×6, or 8×8	Tandem or Tridem Air Ride	6×4, 6×6, 8×4, 8×6, or 8×8	Tandem or Tridem Air Ride
39'6" × 8'6" × 12'2"	39'6" × 8'6" × 13'2"	39'0" × 8'6" × 13'6"	39'6" × 8'6" × 12'2"	45'0" × 8'6" × 13'6"
Truck Engine Driven	Truck Engine and MTU DD Series 60	MTU DD Series 60 and D706	Truck Engine Driven and D706	MTU DD 16V2000 and D706
550 bhp	1150 bhp	630 bhp and 110 bhp	550 bhp and 110 bhp	1500 bhp and 110 bhp
122 °F / 50 °C	122 °F / 50 °C	122 °F / 50 °C	122 °F / 50 °C	122 °F / 50 °C
2000 gallon	2000 gallon	2000 gallon	2000 gallon	N/A
Closed Loop Hydraulic	Closed Loop Hydraulic	Direct Drive via Allison Transmission	Direct Drive via Allison Transmission	Direct Drive via Allison Transmission
Triplex	Two (2) Triplex	Triplex	Triplex	Quintuplex
Optional - Stewart & Stevenson DaqPaq	Optional - Stewart & Stevenson DaqPaq	Optional - Stewart & Stevenson DaqPaq	Optional - Stewart & Stevenson DaqPaq	Optional - Stewart & Stevenson DaqPaq

# Stewart & Stevenson

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