



## ON-SITE NITROGEN GENERATOR

### HPNGU mobile

**High Pressure Nitrogen Generation Unit (750M HPNGU-95-5000)** is a fully integrated mobile nitrogen generator specifically designed for rapid deployment in remote locations.

Characteristic	Value / Description
Flow rate	750 scfm   21 scmm
N <sub>2</sub> Purity	95%, up to 99%
Pressure	5000 psig   35 MPa
Drive	Diesel (Caterpillar)
High temperature membranes	Up to 180° F (82° C)
Best in class membrane separation	Feed air to N <sub>2</sub> output up to 57%

#### Mobile HPNGU 750M HPNGU-95-5000

While other membrane systems or inert gas generators require multiple transports and long setup/breakdown times, the 750M HPNGU is mounted on a single trailer already interconnected and calibrated.

These systems are best used for remote locations where the cost of delivered liquid nitrogen (LIN) is high, when the scheduling and delivery of nitrogen takes a long time, or when the requirement calls for continuous mobility. PCI's nitrogen generators eliminate the troublesome logistics and timing of LIN supply while delivering nitrogen at a portion of the cost of hauled in LIN.

#### Benefits

- Fully integrated mobile nitrogen generator
- Designed for reliability and rapid deployment
- Most efficient configuration
- Delivers high or low pressure nitrogen or dry air
- Easy to operate and maintain
- Field proven globally

#### Applications

- Well servicing
  - Coiled tubing applications
  - Well cleanouts
  - Stimulation
- Gas lift
- Underbalance Drilling (UBD)
- Pipeline / refinery
  - Purging and testing



## OIL AND GAS APPLICATIONS

PCI is the leading manufacturer of integrated mobile and portable nitrogen generation equipment for the oil & gas industry. Our innovative nitrogen systems are specifically designed with the operator and applications in mind – ease, efficiency, and reliability of operation.

### Oil and Gas Nitrogen Applications Performance Ranges:

Application	Description	Flow		Pressure		Purity (%N <sub>2</sub> )
		scfm	scmm	psig	MPa	
<b>COILED TUBING OPERATIONS</b>	Coiled tubing is a flexible coil of piping that is run down a well and used in workovers, drilling operations, and fracturing. Nitrogen is sent down the hole to stimulate production, clean out debris, etc.	350 to 3000	10 to 85	1000 to 10000	7 to 69	95%+
<b>PIPELINE PURGING &amp; DRYING</b>	Dry nitrogen is used to displace hydrocarbons in a pipeline or push a "pig" down a pipeline during cleaning. Nitrogen is also used to dry chemical pipelines to very low dew points, or for general inerting during plant turnarounds.	100 to 3000	3 to 85	300 to 3000	2 to 20	95%+
<b>UNDERBALANCED DRILLING (UBD)</b> <b>MANAGED PRESSURE DRILLING (MPD)</b>	Drilling operation where the pressure in the wellbore and bottomhole is less than the formation, allowing for production during drilling as well as protection of the formation. Nitrogen is commonly used because of combustion issues, and to far lesser extent, corrosion issues.	500 to 3000	14 to 85	1000 to 5000	7 to 35	95%+
<b>WELL COMPLETIONS &amp; WORKOVERS</b>	Wells are sometimes capped off after drilling operations are concluded. Perforating the production string and displacement of the hydrostatic fluid head must be done to get the well to flow on primary pressure. Workovers are subsequent cleanouts performed on a regular basis to remove hydrostatic fluids.	350 to 3000	10 to 85	1000 to 5000	7 to 35	95%+
<b>GAS LIFT</b>	Introducing nitrogen in the produced oil product lightens the fluid, and the gas helps carry the lighter fluid to the surface. This is a secondary or enhanced oil recovery technique.	300 to 3000+	8 to 85+	1000 to 5000+	7 to 35+	95%+
<b>ENHANCED OIL RECOVERY (EOR)</b> <b>NITROGEN FLOODING</b>	When the primary pressure of the reservoir is gradually depleted over time, additional energy must be added to the reservoir to drive the reservoir products to the surface. Nitrogen or natural gas is used to provide this additional pressure. Injection of nitrogen is used to push a miscible front through a reservoir which pushes banks of displaced oil to production wells.	1000 to 3000+	28 to 85+	1000 to 5000+	7 to 35+	95%+
<b>STIMULATION</b>	Nitrogen is used as a carrier gas for a number of chemicals, including acids, and various proppants used to fracture a reservoir to increase the permeability and total oil recovery of the well.	1000 to 5000	28 to 140	2000 to 10000	13 to 69	95%+