ON-SITE NITROGEN GENERATOR

HPNGU offshore – Zone II

High Pressure Nitrogen Generation Unit (750 HPNGU-ZII-95-5000) is a Zone II compliant nitrogen generator for use in hazardous locations, comprised of 3 containers for ease of shipping

Characteristics	Value / Description
Flow rate	750 scfm I 21 scmm
N_2 Purity	95%, up to 99%
Pressure	5000 psig I 35 MPa
High temperature membranes	Up to 180° F (82° C)
Classification	Zone II
Dimensions	3 container skids, 3x (10' x 10' x 20'

Offshore HPNGU 750 HPNGU-ZII-95-5000

Zone II compliant nitrogen generator for use in hazardous locations. The system is comprised of 3 containers for ease of shipping and can be equipped with crash bars for protection.

The system can be outfitted with a fully automated touch screen control system along with data acquisition system capabilities. The 750-HPNGU-ZII allows for the greatest flexibility of use for both onshore and offshore applications in one system.

Benefits

- Fully integrated mobile nitrogen generator
- Designed for reliability and rapid deployment
- Self contained diesel drive system
- Zone II compliant for use in hazardous locations
- Easy to operate and maintain
- Local or remote control and display
- Field proven globall

Applications

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

PCI Gases

12201 Magnolia Avenue
Riverside, California
92503, US

+1 951.479.0860
oxygen@pcigases.com
www.pcigases.com

PCI is an
ISO9001 & ISO13485
registered company

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 scfm | scmm	Pressure psig | MPa	Purity (%N_2)
COILED TUBING OPERATIONS	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%+
PIPELINE PURGING & DRYING	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%+
UNDERBALANCED DRILLING (UBD) **MANAGED PRESSURE DRILLING (MPD)**	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%+
WELL COMPLETIONS & WORKOVERS	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%+
GAS LIFT	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%+
ENHANCED OIL RECOVERY (EOR) **NITROGEN FLOODING**	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%+
STIMULATION	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%+