



# Nitrogen Generators

## Oil & Gas Industry



- General Rig Inerting**
- Flare Tower Inerting**
- Heave Compensation**
- Buffer Gas Seals**
- Well Injection / Gas Lift Pressure Maintenance**
- Emergency High Pressure Bottle Filling**
- Instrument Air Systems**
- Pipeline Purging and Drying**

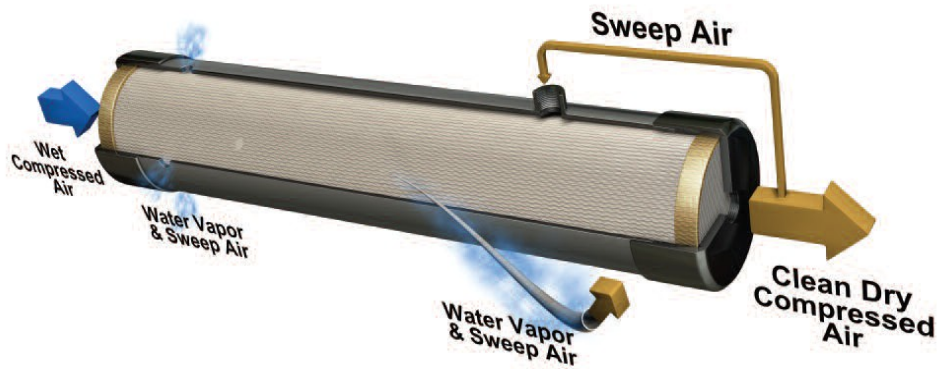
**And many more...**



# Primary Air Compression and Instrument Air Packages

Expanding on its knowledge of Primary Compression when designing Nitrogen Generators, IGS has expanded its product base to include stand alone or integrated Instrument Air Packages for the Oil and Gas Industry. This product offering stemmed from the requirement of providing High Quality Engineered Compression packages to meet the stringent demands of its clients. To improve the offerings, IGS developed the **Patented Dehydration Hollow Fiber Membrane** as an alternative to the Twin Tower Desiccant Dryers most commonly used for providing Instrument Quality Dry Air.

This revolutionary design allows IGS to fully integrate the requirement of Instrument Quality Air with our Nitrogen Generator reducing weight and overall size. The Dehydration Membranes when coupled with the Nitrogen Generator utilizes the high efficiency filtration package for the Nitrogen Generator reducing the overall footprint. In addition, by using Dehydration Membranes, there are no moving parts resulting in lower maintenance costs. IGS also offers a full range of standard Twin Tower Desiccant Dryers as an alternative to the Dehydration Membrane Technology.



Tahiti—Gulf of Mexico



Takula—Angola

# Nitrogen Generators

IGS is the world leader in the design and fabrication of Nitrogen Generators for both Offshore Platforms and FPSOs for the Oil and Gas Market. IGS has provided thousands of systems to the Oil & Gas, Marine and Industrial Industries with over 300 systems supplied to the Oil & Gas Industry and Service Providers. We provide systems to various end users and locations worldwide each of which has met stringent customer and third party specifications. A sample of the various Platform and FPSO systems includes:

## Platforms

Tahiti—Gulf of Mexico  
Peridido—Gulf of Mexico  
Sanha—Angola  
Tunu—Southeast Asia  
Troll—North Sea  
Tombua Landana—Nigeria  
PB-Ku-H—Gulf of Mexico  
Su Tu Vang—Southeast Asia  
White Rose—Newfoundland  
Peciko—Southeast Asia  
Platon—Southeast Asia  
Nakika—Gulf of Mexico  
Sakalin Phase I & II  
Karan—Saudi Arabia

## FPSOs

Frade—Brazil  
Agbami—Nigeria  
Belanak—Southeast Asia  
Mondo—Angola  
Mystras—Nigeria  
Falcon—Nigeria  
Saxi—Angola  
Eagle—Nigeria  
Bohai Ming Zhu—China  
Cidade de Niteroi—Brazil  
Atlantic—Nigeria  
P53—Brazil  
Aker Smart—India

Each system was designed and fabricated to meet the individual requirements of the end user. These systems included Primary Air Compression, Instrument Air Equipment, High Pressure Post Compression and Bottle Back-up Systems. Systems were designed for all areas of classification, from safe to hazardous areas. Classifications range from Class I Div II—Zone II, ATEX/CE/Ped and European standards.

### Benefits:

- **Proven Technology** – over thirty years and thousands of installed systems
- **Smallest Foot Print** – Due to the Patented Generon® IGS Membranes
- **Integration** – complete with Primary/Post Compression and Instrument Air
  - **Low Maintenance** – no moving parts
- **Automatic Operation** – designed to function without the need of an operator
- **Energy Efficiency** - Lowest Power Requirements on the market

### Products:

- Air Compression Packages
- Instrument Air Packages
  - Nitrogen Generators
- Post Compression Packages
- Natural Gas Compression Packages
  - Integrated Packages

From Safe Area to Hazardous Area; from electrically driven to engine driven; from -40° F (-40° C) to 140° F (60° C); from Stand alone Nitrogen Generators to fully integrated Packages – **IGS has the proven technology and expertise to meet the Offshore Oil & Gas requirements.**

# Nitrogen Generators—Skidded and Integrated Systems

Nitrogen Generators has been the core business of IGS for the past thirty years. IGS has become one of the most proven suppliers of Nitrogen Generators as well as Packaged Equipment to the Off-shore Oil and Gas Industry. As our product name has grown, so has the supply of integrated primary and post compression packages to the industry. In addition, given our expertise in fiber technology, many systems are now being supplied for Instrument Air requirements using membrane technology. Our systems are designed for the harshest environments and can meet all third party and customer requirements.

## Agbami—Nigeria



## Perdido Gulf of Mexico



## Post Compression Packages

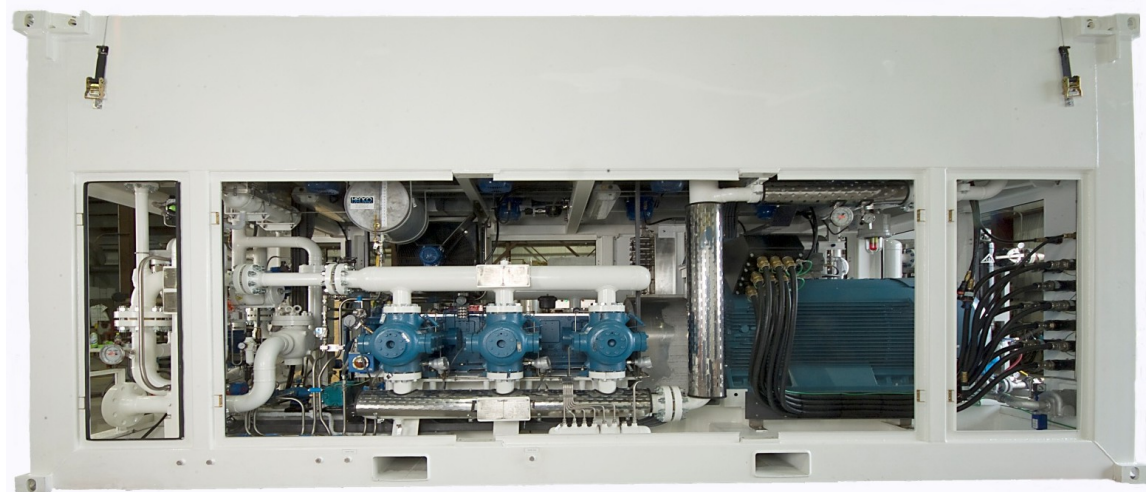
Expanding our knowledge of compression systems, IGS engineers and manufactures both Nitrogen and Natural Gas Compression packages. Working with our clients, we provide a wide variation of post compression systems to meet the demanding needs of the Oil and Gas Industry. IGS has provided engineered Post Compression systems as standalone units as well as being integrated as full line systems including Primary Compression and Nitrogen Generator Systems. Variations of package designs include:

- Electrically Driven
- Diesel Driven
- Natural Gas Driven
- Air Driven
- Reciprocating – V-Style
- Reciprocating – Horizontal
- Screw
- Piston

Our thirty plus years of experience in gas handling equipment makes us one of the leaders in the design of primary and post compression packages. Systems have including designs with flow rates from 15 scfm (25 Nm<sup>3</sup>/hr) to 400 scfm (630 Nm<sup>3</sup>/hr) and final output pressures of up to 9,000 psig (620 barg). Systems are designed to meet the harshest environments and both U.S. and European Hazardous area classifications.



**Hydrocarbon Gas  
Compressor**



**Natural Gas Compressor  
Europe**

# Generon® IGS Clients

## Engineering Companies

KBR  
Amec Paragon  
EDG Consultants  
DSME  
SOME  
Mustang Engineers  
JR McDermott  
Technip  
HHI  
Fluor  
Alliance Engineering  
Modec International  
Petrofac  
SHI  
MMHE

## Major Oil Companies

Chevron  
British Petroleum  
Pemex  
PTTEP  
KNOC  
PDVSA  
Shell  
Saudi Aramco  
Statoil  
Qatar Gas  
Total  
Lukoil  
Exxon Mobil  
Petrobras  
Conoco / Phillips  
Pakistan Petroleum  
Petronas  
Rosneftbunker

## Service / Drilling Contractors

BJ Services  
TransOcean  
Schlumberger  
Fat Dog Foam  
Seadrill  
Weatherford  
Santa Fe Drilling  
Precision Air Drilling  
Magna Flo  
Tech Foam  
Halliburton  
Noble Drilling  
National Oilwell  
Global Nitrogen Services

And more...

## Contact Information

### MANUFACTURING

#### Generon® IGS

16250 Tomball Parkway  
Houston, Texas 77086  
+1.713.937.5200 (phone)  
+1.713.937.5250 (fax)  
rbarrera@generon.com



#### IGS Italia s.r.l.

Via Giordania, 48-58100  
Grosseto, Italy  
+39.0564.4580.41/42 (phone)  
+39.0564.4580.43 (fax)  
o.degroen@igs-italia.com  
www.igs-italia.com



#### IGS SMC Asia Gas Systems Co. Ltd

Shunfeng Rd., Shuangliu Aviation  
Zone Chengdu, Sichuan, P.R.China  
610225  
+86 28 8588 2034 (phone)  
+86 28 8588 2037 (fax)  
+86 1390 8180 491 (cell)  
hubo@smc-igs.com  
www.smc-igs.com



### SALES

#### Generon® IGS Europe

c/o WWBC Business Center.Koenigsallee 14  
D-40212 Duesseldorf / Germany  
+49 211 13 866 293 (phone)  
+49 211 13 866 294 (fax)  
+49 172 25 04 759 (cell)  
rgester@generon.com  
www.igs-global.de

#### Generon® IGS RUS Ltd

Balashikha  
Lenin av. 75  
Moscow region, Russia 143900  
+7.495.525.6744 (phone)  
+7.903.689.8067 (cell)  
a\_marchenko@igs-russia.ru  
www.igs-global.com/russia

#### Generon® IGS Korea

1st floor Taeyangvil,  
561-14, Gajwa-dong  
Jinju-city, Republic of Korea  
Post code no. 660-300  
82 (+55) 761 8415 (phone)  
82 (+55) 761 8435 (fax)  
yang@igskorea.co.kr  
www.igskorea.co.kr

#### Generon® IGS Middle East

c/o IDC  
PO BOX 2621  
Abu Dhabi  
UAE  
Area Manager: Nitin Sastakar  
+971.55.103.58.63 (phone)  
nsastakar@generon.com

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