Project Experience

Module Line Blowing and Pneumatic Testing
Pneumatic Pressure Testing

High Pressure Air Compressors coupled with Desiccant Dryers are packages utilised for pneumatic pressure testing operations up to 365 psig. Booster Compressors combined with after filtration can also be incorporated into the packages to accommodate for pressures up to 3,000 psig.

Superior quality of compressed clean dry air is provided by way of cooling, water separation, filtration and absorption to allow successful pneumatic pressure testing to be carried out ranging from the smallest of volumes up to extremely large volumes.

LNG & Pipeline Applications

Airpac Bukom’s rental fleet comprises of a wide range of equipment which can be utilised for LNG and pipeline projects, including those located in remote and challenging areas around the world.

Airpac Bukom supply high quality and reliable equipment with experienced personnel to operate and maintain compressed air spreads on all phases of LNG and pipeline projects.

Equipment consists of Low Pressure Air Compressors at 125 psig / 1050 scfm and 175 psig / 950 scfm, High Pressure Air Compressors up to 365 psig / 1050 scfm, Multi Pressure Desiccant Dryers with minimum dewpoint capabilities of -40°C and oil content of 0.01 mgs/m³, Air Receivers in various sizes and pressure ratings, Booster Compressors offering up to 3,000 psig and volumes of 3,800 scfm.

Pneumatic Pressure Testing

Typical Airpac Bukom Spread for Pneumatic Pressure Testing:

![Typical Airpac Bukom Spread for Pneumatic Pressure Testing](image.png)
• **Line Blowing/Drying**

Low Pressure Air Compressors coupled with Desiccant Dryers are packages utilised for line blowing/drying operations. Air Receivers can also be incorporated into the packages to accommodate for larger volumes to enhance the effectiveness and reduce the overall time of operations.

Superior quality of compressed clean dry air is provided by way of cooling, water separation, filtration and absorption to allow LNG process pipework to be cleaned effectively free of debris and adequately dry to the required dewpoint.

**Typical Airpac Bukom Spread for Line Blowing/Drying:**

![Diagram showing the typical spread for Line Blowing/Drying](image)
Project Experience

In recent times, Airpac Bukom has provided a range of temporary compressed air equipment packages for the following major development and expansion projects:

- **North West Shelf Train V project** - Western Australia.
- **Chevron Wheatstone LNG module build** - Batam, Indonesia.
- **Chevron Wheatstone LNG project** - Western Australia.
- **APLNG module build** - Batam, Indonesia.
- **APLNG Curtis Island Project** - Queensland, Australia.
- **QCLNG Curtis Island** - Queensland, Australia.
- **GLNG Curtis Island** - Queensland, Australia.
- **Woodside Pluto LNG module build** - Thailand.
- **Woodside Pluto LNG construction project** - Western Australia.
- **Inpex LNG module build** - Thailand.
- **Inpex LNG project** - Northern Territories, Australia.

Each contract covered the supply, operation and maintenance of high and low pressure Booster Compressors, Air Compressors and Air Treatment equipment for air blowing, drying and pressure testing of the various LNG module and pipework systems.
**Construction & Commissioning Phase**

**Location:** Queensland, Australia  
**Client:** QGC  
**EPC:** Bechtel  
**Scope:** Provision of temporary air compression with operation and maintenance

Airpac Bukom provided experienced personnel to operate and maintain our high and low pressure compressed air spreads. We also provided training, assistance and advice to the Bechtel pneumatic testing team during the construction and commissioning phases of the QCLNG process plant. The equipment was used for the testing process of the LNG modules during construction and commissioning of the process plant.

Equipment supplied on a rental basis included:

- **Pneumatic testing**  
  Booster Compressors, High Pressure Air Compressors, VHP Heatless Air Dryers, VHP final oil removal filtration, oil / water separation and removal equipment.

- **Line blowing**  
  Low pressure Air Compressors, VHP Heatless Air Dryers, water separation and removal equipment, Air Receivers and Silencers.

"I would gladly recommend the services of Airpac Bukom for any compressor and dryer requirements on any level of work. We look forward to working with Airpac again on the next exciting project."

**Adam Mastor**  
Testing & Air Blowing Superintendent  
QCLNG, Bechtel
Airpac Bukom provided fully trained and experienced mechanic operators who managed equipment operation and provided training and instruction to local employees.

Equipment provided on a rental basis included:

- **Pneumatic testing**
  Four High Pressure Air Compressors, two High Pressure Heatless Air Dryers, VHP final oil removal filtration, oil / water separation and removal equipment.

- **Line blowing**
  Six Low Pressure Air Compressors, four Low Pressure Heatless Air Dryers, oil / water separation and removal equipment and three 5m³ Air Receivers.
Fabrication Phase

Location: Batam, Indonesia  
Client: APLNG  
EPC: Bechtel  
Scope: Provision of temporary air compression with operation and maintenance

Provided operating personnel on a twelve week rotation to operate and maintain our high and low pressure compressed air spreads. Our Operators also provided assistance and advice to the Bechtel pneumatic testing team during the fabrication and testing process of the LNG modules.

Equipment being supplied on a rental basis includes:

- **Pneumatic testing**  
  Booster Compressors, High Pressure Air Compressors, VHP Heatless Air Dryers, VHP final oil removal filtration, oil / water separation and removal equipment.

- **Line blowing**  
  Low pressure Air Compressors, VHP Heatless Air Dryers, water separation and removal equipment, Air Receivers and Silencers.
Construction & Commissioning Phase

**Location:** Queensland, Australia  
**Client:** ConocoPhilips and Origin Energy JV  
**EPC:** Bechtel  
**Scope:** Provision of temporary air compression with operation and maintenance

Airpac Bukom provided skilled personnel to operate and maintain our high and low pressure compressed air spreads. Training, assistance and advice was also provided to the Bechtel pneumatic testing team during the construction and commissioning phases of the APLNG process plant. The equipment was used for the testing process of the LNG modules during construction and commissioning of the process plant.

Equipment supplied on a rental basis included:

- **Pneumatic testing**  
  Booster Compressors, High Pressure Air Compressors, VHP Heatless Air Dryers, VHP final oil removal filtration, oil / water separation and removal equipment.

- **Line blowing**  
  Low pressure Air Compressors, VHP Heatless Air Dryers, water separation and removal equipment, Air Receivers and Silencers.
**Fabrication Phase**

**Location:** Thailand  
**Client:** Woodside - CR Asia  
**EPC:** Foster Wheeler Worley Parsons  
**Scope:** Provision of temporary air compression with operation and maintenance

Provision of three operating personnel on an eight week rotation.

Equipment supplied on a rental basis included:

- **Pneumatic testing**  
  Two Booster Compressors, four High Pressure Air Compressors, two High Pressure Heatless Air Dryers, VHP final oil removal filtration, oil / water separation and removal equipment.

- **Line blowing**  
  Six low pressure Air Compressors, four Low Pressure Heatless Air Dryers, oil / water separation and removal equipment and three 5m³ Air Receivers.

“Airpac Bukom supplied operated and maintained compressed air spreads that we required for pneumatic testing and line blowing of the Pluto LNG modules both in Thailand during fabrication and on site at the Pluto Gas plant during construction and commissioning.

During the project the equipment supplied was operated without interruption to the process and to specification. The team worked professionally, safely and integrated seamlessly into our testing organisation.”

Mark Potter  
Fabrication Manager, Pluto
Pluto LNG

Construction & Commissioning Phase

Location: Dampier, Australia  
Client: Woodside  
EPC: Foster Wheeler Worley Parsons  
Scope: Provision of temporary air compression with operation and maintenance

Provision of four operating personnel and one HSE Supervisor per shift on a four week rotation.

Equipment supplied on a rental basis included:

- **Pneumatic testing**  
  Three Booster Compressors, eight High Pressure Air Compressors, eight High Pressure Heatless Air Dryers, VHP final oil removal filtration, oil / water separation and removal equipment.

- **Line blowing**  
  Twelve Low Pressure Air Compressors, eight Low Pressure Heatless Air Dryers, oil / water separation and removal equipment, four 25m$^3$ Air Receivers, three 15m$^3$ Air Receivers and three 5m$^3$ Air Receivers.
Why choose Airpac Bukom?

• Proven LNG track record
• Commitment to Q.H.S.E.
• Tailored solutions
• Partnership approach
• Safety first
• Global service and locations
• Quality assured organisation
• Vast LNG project experience
• Wide equipment range and fleet size
• 24/7 coverage
• Experienced Mechanic Operators
• Service and maintenance included within the cost of our Operators
• Customer training
• Flexible approach to each project
• Work closely within project and testing teams
• Cost effective individual packages
### Contact Us

Contact your local office for more information on our capabilities:

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Telephone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABERDEEN</strong></td>
<td>Airpac Bukom Oilfield Services</td>
<td>+44 (0)1467 242 000</td>
<td><a href="mailto:airpac.europe@vpplc.com">airpac.europe@vpplc.com</a></td>
</tr>
<tr>
<td></td>
<td>Tofthills Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Midmill Business Park</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kintore</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aberdeenshire</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AB51 0QP</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AUSTRALIA</strong></td>
<td>Airpac Bukom Oilfield Services Pty Ltd.</td>
<td>+61 (0) 8 9418 2177</td>
<td><a href="mailto:airpac.australia@vpplc.com">airpac.australia@vpplc.com</a></td>
</tr>
<tr>
<td></td>
<td>59 Barberry Way</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bibra Lake</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6163</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Australia</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GREAT YARMOUTH</strong></td>
<td>Airpac Bukom Oilfield Services</td>
<td>+44 (0)1493 652 732</td>
<td><a href="mailto:airpac.europe@vpplc.com">airpac.europe@vpplc.com</a></td>
</tr>
<tr>
<td></td>
<td>Bessemer Way</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Harfrey’s Industrial Estate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Great Yarmouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NR31 0LX</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CURAÇAO</strong></td>
<td>Airpac Bukom Oilfield Services N.V.</td>
<td>+5999 8682599</td>
<td><a href="mailto:airpac.americas@vpplc.com">airpac.americas@vpplc.com</a></td>
</tr>
<tr>
<td></td>
<td>Unit FII – 11 Economische Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hato</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Curaçao</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dutch Caribbean</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SINGAPORE</strong></td>
<td>Airpac Bukom Oilfield Services Pte Ltd.</td>
<td>+65 6861 5961</td>
<td><a href="mailto:airpac.asia@vpplc.com">airpac.asia@vpplc.com</a></td>
</tr>
<tr>
<td></td>
<td>9 Pioneer Sector 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>#03-00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Singapore</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>628371</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNITED ARAB EMIRATES</strong></td>
<td>Airpac Bukom Oilfield Services Middle East FZE</td>
<td>+44 (0)1493 460 573</td>
<td><a href="mailto:airpac.mea@vpplc.com">airpac.mea@vpplc.com</a></td>
</tr>
<tr>
<td></td>
<td>Unit Q3-072</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P.O. Box 121378</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAIF-Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sharjah</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>U.A.E.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>