SIAD Group and SIAD Macchine Impianti

SIAD Group is one of the main industrial groups in Europe. SIAD Group was established in Bergamo, Italy in 1927 and is active in Technical Gases, Equipment Engineering and Manufacturing, Welding, Industrial Goods, Healthcare and Services.

SIAD Macchine Impianti is the Group company dedicated to the Engineering and Equipment sector. With a history of focusing on international markets, SIAD Macchine Impianti S.p.A. is global leader in the engineering and manufacturing of cryogenic Air Separation Units (ASU) for the production of gaseous and/or liquid Oxygen, Nitrogen, and Argon. The Company also engineers and manufactures high quality reciprocating compressors and which along with the air separation plants has become a point of reference for the refinery, petrochemical, chemical, and oil and gas industries.

- In 1927, SIAD Macchine Impianti engineered and manufactured the first API618 compressor. Since that time the Company has supplied 5,000 compressors.
- In 1953, SIAD Macchine Impianti engineered and manufactured its first ASU. Since that time the company has supplied over 500 ASUs around the world.

The worldwide presence of the Company’s ASUs and compressors demonstrates the company’s keen understanding of the global market requirements and standards and a far sighted business and marketing strategy to best serve this global market.

In addition to ASUs and reciprocating compressors, the company also designs, manufactures markets and installs worldwide other engineered equipment such as:

- systems for automation, supervision and distribution of energy;
- cells and complete turnkey lines for welding, cutting and material handling;
- maintenance and management assistance services.

Presence with companies and production plants
Presence with companies, commercial agencies and service centres for the Engineering sector
SIAD Group and SIAD Macchine Impianti headquarters
Companies of SIAD Group
Presence with commercial agencies
Presence with Certified Service Centres
Established in 2012, SIAD Engineering (Hangzhou) is SIAD Macchine Impianti’s first and sole subsidiary in China supplying Chinese customers cryogenic Air Separation Units under the trademark “SIAD” for the China market and in support of SIAD Macchine Impianti’s global business.

Over time, SIAD Engineering (Hangzhou) intends to engineer and manufacture a full line of air separation and related systems for the China market, enabling SIAD Macchine Impianti to provide its advanced technology and quality to the China market at Chinese costs and pricing.

SIAD Engineering (Hangzhou) Co., was established as a wholly foreign owned enterprise in Hangzhou, to design, engineer and market cryogenic ASUs in China. The manufacturing of these ASUs is carried out at the manufacturing branch of SIAD Engineering (Hangzhou) located in Deqing County, Zhejiang Province.

A SIAD Macchine Impianti representative office was opened in 1997, and in 2009 became SIAD Macchine Impianti Trading (Shanghai) Co., a trading company organized under China’s foreign enterprise laws. While established initially to provide reciprocating compressors for the Chinese market, SIAD Macchine Impianti Trading (Shanghai) Co. is now also responsible for exporting the SIAD Engineering (Hangzhou) ASUs and components to customers outside China.
Air Separation Units for the production of Oxygen, Nitrogen and Argon

Guaranteed continuous supply of oxygen, nitrogen and argon of the highest purity.

Complete compliance with local and international standards.

Tailor-made solutions to meet any production requirement.

SIAD Macchine Impianti has developed its own processes for the selection of equipment and the most flexible technical solutions.

Technical features

Air Separation Units using cryogenic technology for the production of industrial gases in liquid and gaseous form.

**High Purity Plants for liquid and gaseous Oxygen Nitrogen Argon**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Oxygen from 25 Nm³/h to 40 000 Nm³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purity</td>
<td>Oxygen &gt; 99.5%</td>
</tr>
<tr>
<td></td>
<td>Nitrogen &lt; 1 ppm O₂</td>
</tr>
<tr>
<td></td>
<td>Argon &lt; 1 ppm O₂</td>
</tr>
</tbody>
</table>

**High Purity Plants for liquid and gaseous Oxygen Nitrogen**

<table>
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<tr>
<th>Capacity</th>
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<td></td>
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</tr>
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</table>

**Nitrogen Plants**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Nitrogen from 250 Nm³/h to 25 000 Nm³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purity</td>
<td>Nitrogen &lt; 1 ppm O₂</td>
</tr>
</tbody>
</table>

**OxySTEEL, OxyCEMENT, OxyGLASS Cryogenic Low Purity Plants**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Oxygen from 800 Nm³/h to 16 000 Nm³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purity</td>
<td>95% for gaseous O₂</td>
</tr>
<tr>
<td></td>
<td>99.5% for liquid O₂</td>
</tr>
<tr>
<td></td>
<td>99.9% for gaseous N₂</td>
</tr>
</tbody>
</table>

**Engineering services**

- Design;
- engineering;
- feasibility studies;
- commissioning supervision;
- erection, start up and performance testing;
- installation;
- remote control.

www.siadmi.cn/hz
A complete range of services

To reduce operating costs and to maintain the high efficiency of its Air Separation Units, SIAD Engineering (Hangzhou) offers its customers a complete range of services operated by skilled technicians as an integral part of SIAD Macchine Impianti’s global network of such service centers on five continents.

SIAD Engineering (Hangzhou) has its own Service Manager Team, staffed with Service Engineers to assist Chinese customers.

Activities

- ASU maintenance and supply of spare parts:
  - preventative maintenance;
  - predictive maintenance.
- ASU Management Assistance and Optimization:
  - remote monitoring/parameter checks.
- On-site support:
  - commissioning and start up supervision;
- Training courses:
  - on-site practical courses;
  - Practical courses at the SIAD Macchine Impianti headquarters.
Equipment design features

Air separation method
Plants perform cryogenic air separation, i.e. low temperature rectification. Characteristics of this method:
• High purity products.
• High recovery ratio.
• Low power consumption.
• Production of products in gaseous and liquid forms.
• Simultaneously production of more than one product.

Easy installation
Plants are shipped in modular sections for ease of, and low cost, installation. The plant equipment is installed as enlarged modules, which are connected during installation on site with minimum number of interfaces on ready prepared foundations. As a consequence there is a reduction in cost of installing and commissioning. As an additional option, SIAD Engineering (Hangzhou) Co. can also provide on-site commissioning, start-up and performance testing under the supervision of highly qualified engineers and plant operators.

Materials and components
In plant construction, only high quality and durable materials and components, are used. Cryogenic parts and equipment inside the distillation columns are isolated with special insulation to minimize heat loss.

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Automatic control system

State-of-the-art PLC based automation.
- Providing maximum effectiveness of the plant (optimization).
- Automatic monitoring of normal operation mode (without operator supervision).
- Automatic data logging (archives for diagnostics).
- Guarantees safety and reliability of the equipment.

Know-how and state-of-the-art

SIAD Engineering (Hangzhou) Co., has access to SIAD Macchine Impianti's advanced technology and complements it with local knowledge of the Chinese market to provide high efficiency and lowest cost.