

Plant Assessment:

A guide to improving and optimizing your operations



What you don't know could be costing you money. A plant assessment will guide your plant's future strategy for improvement through:

Optimizing production/capacity for a single plant or multiple plants

Reducing operating costs, including turndown operating efficiencies

Minimizing downtime and increasing reliability

Enhancing efficiency and productivity

Increasing safety performance

Reviewing inventory and sparing program

Air Products is a market leader for safety, technology, innovation and operational excellence. Founded more than 70 years ago, Air Products is a \$10.2 billion company with operations in over 50 countries. With over 2,000 plant units designed and built, and 800 plants owned and operated, our experience gained from years of design and operation is the key to providing a plant assessment with a focus on solutions.

Air Products can create a plant assessment that will meet your individual plant's needs

Basic assessment

- Engineering studies of your individual plant can be conducted to review the current process and performance vs. Air Products' operating standards for a similar facility. The report will help determine your plant's design limitations and focus areas to further investigate if necessary.

Detailed assessment

- Engineering study to determine design and operational limitations and focus areas for further investigation.
- Review of the potential for coordination between multiple industrial gas plants to increase efficiencies, reduce power consumption, and/or optimize overall production.
- Field inspection of your plant's:
 - Rotating machinery, i.e., compressors
 - Front-end systems
 - Expanders
 - Column and heat exchangers
 - Storage and vaporization
 - Instrumentation and controls
 - Electrical/MCC

Safety assessment

- Inspection and evaluation of process conditions and operating procedures to address safe plant performance.
- Review of current plant layout for safety improvements (ladders, platforms, concrete, etc.).
- Identification of safety hazards.
- Review of maintenance activities and programs.
- Review of equipment protection systems.
- Inspection of material conditions of the plant and equipment.

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**For more information,
please contact us at:**

Americas

Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18195-1501
T: 1-800-551-2995
ESPSinfo@airproducts.com

Europe, Middle East, Africa

Air Products PLC
Hersham Place Technology Park
Molesey Road
Walton-on-Thames
Surrey KT12 4RZ
UK
T +44 1932 249200
ESPSinfo@airproducts.com

Here's what a plant assessment accomplished for two of our customers:

Success story 1

Air Products was contacted by an industrial gas customer in the Middle East that was experiencing operating issues with its 2000 T/D oxygen plant and seeking opportunities to increase throughput. Through a detailed plant assessment, it was found that a fundamental mechanical issue with the adsorber was the culprit. With Air Products' recommendations in place, the customer's plant restart enabled a 150 T/D (7.5%) incremental gaseous oxygen production and a 6-month payback to the customer's investment.

Success story 2

A customer in the United States requested an Air Products plant assessment for an older plant. This customer was interested in extending the operating life of the plant while saving energy and increasing onstream availability. With Air Products' recommendations in place, this plant will be able to reduce power usage by over 5%, restore original vibration levels on the compressors, and improve availability—all with a return on investment of less than two years.

Training programs can be customized to meet your plant's individual needs. With a return on investment as low as two years or less for many plant upgrades, can you afford to wait? The plant assessment is only the first step to unlocking your plant's potential.

China

Air Products and Chemicals (China) Investment Co. Ltd.
East Wing, Floor 1
Building #88, Lane 887
Zu Chongzhi Road
Zhangjiang Hi-Tech Park
Shanghai, 201203
P.R. China
T +86-21-38962569
ESPSinfo@airproducts.com

India, Southeast Asia

Prodair Air Products India Pvt Ltd.
602, Pentagon 5
Magarpatta City
Hadapsar, Pune – 411013
Maharashtra, India
T +91-20-49115252
ESPSinfo@airproducts.com



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airproducts.com/services/plant-services