

# Services for air pretreatment



Remove H<sub>2</sub>O, CO<sub>2</sub>, N<sub>2</sub>O and hydrocarbons

Increase plant efficiency and production

Lower operating and maintenance costs

Make better use of your existing equipment

## Increase efficiency. Extend plant life.

Today's cryogenic air separation units use molecular sieves with gas adsorption technology to remove water and carbon dioxide in order to prevent freezing at low temperatures. Air Products offers a wide range of solutions using horizontal, vertical and radial flow beds. We have applied this effective, low-cost technology in more than 300 systems, and we can put it to work to optimize your plant operation. If you are running a reversing heat exchanger (revex) plant, our front-end cleanup systems offer multiple advantages, including increased plant longevity, higher reliability and better operational stability. These systems can also lower maintenance costs and reduce the need for spare parts.

## What we can offer

### Innovative solutions to reduce power consumption

- Integration with other equipment
- Low regeneration energy

### Performance enhancements

- Operational performance reviews
- Optimize switching sequence times
- Optimize PLC or DCS control of adsorber sequence
- Specific solutions for CO<sub>2</sub>, N<sub>2</sub>O and hydrocarbons

### Troubleshooting

- Reversing heat exchanger operation
- Adsorbent systems
- Debottlenecking

### Repairs, replacements and consumables

- Cores and switch valves (revex plants)
- Vessels
- Supply, replacement and loading supervision of adsorber material
- Solutions for other front-end processing equipment, e.g., new internals for DCAC, ACs, chill towers, distributor modifications, etc.

### Revex to front-end conversions

- Feasibility studies
- Turnkey revex to molesieve upgrades



"Air Products has been a leader in air pre-purification for over 30 years. We can apply our know-how to improve your operation in many ways. We can increase throughput with state-of-the-art adsorbents, dramatically reduce energy consumption with advanced computer controls and modify equipment to improve onstream time."

Dave Upright, Project Manager,  
Equipment Sales and Plant  
Support

## What does this mean for your operation?

### Access to Air Products' resources

- The latest technology based on continuous research and development
- Decades of operational and maintenance experience
- Wide range of innovative solutions
- Adsorbents tested and proven for the application

### Improved plant performance and higher production

- Lower regeneration flow, resulting in lower power consumption
- Safer operation
- Increased efficiency
- Higher airflow through adsorbents
- Increased recovery of oxygen and argon

### Greater reliability

- Adsorbent technology allows for steady flow, temperature and pressure profiles, resulting in higher online time
- Extended plant lifetime

### Cost control

- Competitive pricing and fast delivery of adsorbent material
- Adsorbent technology can lower costs by avoiding repairs



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