Ensuring reliability and availability for your plastics production

With decades of chemical and petrochemical experience, Atlas Copco Gas and Process centrifugal compressors handle the complex challenges of the polyolefins industry.

HANDLE THE PRESSURE

From automotive, packaging, building and construction to consumer goods, plastics are vital to many areas of our everyday lives. And with the world’s population growing, they are replacing many other materials. Based on complex chemical and petrochemical processes, polyolefins are one of the key building blocks in plastic materials production. Atlas Copco Gas and Process draws from its broad experience in driving critical processes using integrally-geared and non-geared centrifugal compressors to handle the complex challenges and needs of process licensors and end users – both safely and reliably.
Experience at work

From the United States and the Middle East to Russia and China: Time and again we have delivered maximum compressor efficiency and robustness in complex and rigid polyolefin processes, driving the gas phase in some of the world’s most demanding plastic-producing applications.

Depending on your process, our experts around the globe can customize your turbocompressors and turboexpanders to boost the reliability and availability of your operation – or draw from our portfolio of standardized solutions.

Serving this market, we comply with codes and regulations including:

- API 617
- API 614
- ERC Russia
- CSA/CRN

In every chemical and petrochemical processes running at the heart of your plant – you require robust and reliable compressor solutions that safely handle your gas stream. After all, a stable supply gas is critical for sustainable production and maximum uptime in your plant.

Operating in challenging plant environments and facing risks such as polymerization to your equipment, you need a partner with proven experience and competence in areas such as fouling services.

To that end, Atlas Copaco Gas and Process’ tried-and-trusted technology is the backbone of efficient, safe, and reliable productivity in your plant (99 percent availability).

Designed for maximum availability

Our engineering and manufacturing expertise unlocks a high level of aerodynamic performance and mechanical reliability.

Critical components such as impellers, casings, guide vanes, shaft seals, gears and bearings are anchored in proven, field-tested designs. The entire compressor stage is designed to prevent polymerization in your equipment.

A dry face seal in deployment

Inlet guide vanes provide maximum control over flow rates.
Simple concepts for superior maintainability

With its proven design features and maintainability concepts, Atlas Copco Gas and Process solutions are the right match for the challenging requirements in your polyolefin plant.

Our smart plug-in design for direct-driven compressors enables easy access to all rotating parts such as dry face seals, impellers, bearings or vibration probes. For maintenance, the bearing carrier can be pulled from the back. In turn, this ensures a maximum level of compressor maintainability, and ultimately improves the availability of your overall plant.

Applications served:

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<th>Polyethylene/Polypropylene</th>
<th>Ethylene Oxide/Ethylene Glycol</th>
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<tr>
<td>Cycle Gas Compression⁵</td>
<td>Residue Gas Compression¹</td>
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<td>Ejector Boosting³</td>
<td>CO₂ Make-up Gas¹</td>
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<td>Main Loop Compression²</td>
<td>CO₂ Recycle Gas¹</td>
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</tbody>
</table>

¹ Uses integrally-gearred compressors, ³ Uses direct-driven compressors

Reference applications in polypropylene/polyethylene

**Cycle Gas for Polyethylene**

Gas: Ethylene Mix  
Flow: 54,000 m³/h  
Inlet pressure: 22.2 bar a  
Outlet pressure: 25.3 bar a  
Inlet temperature: 39.5 °C  
Code: API 617 and API 614 (oil system), latest edition

**Ejector Boosting for Polyethylene**

Gas: Ethylene Mix  
Flow: 38,000 Nm³/h  
Inlet pressure: 24.8 bar a  
Outlet pressure: 27.5 bar a  
Inlet temperature: 45 °C

**PolyBlock™ Standardized Gas Compressor for Polypropylene**

Gas: Propylene Mix  
Flow: 39,000 Nm³/h  
Inlet pressure: 15 bar a  
Outlet pressure: 15.95 bar a  
Inlet temperature: 80 °C  
Code: API 617 and API 614 (oil system), latest edition