



Atmospheres for Powder Metal Part Producers



Linde atmospheres and technical know-how improve product consistency, helping your bottom line.

A reliable, consistent furnace atmosphere is important for powder metal sintering and powder metal reduction. For nitrogen and hydrogen-based atmospheres and technical know-how to help you remain competitive, turn to Linde for reliability, cost savings and quality.

- Highlights**
- Flexible, cost-saving options for hydrogen and nitrogen based atmospheres
 - Gas control equipment and technologies from ongoing R&D and industry experience
 - Engineering support and expertise located regionally
 - Products and patented applications to improve quality and reliability while lowering your costs
 - One of the largest industrial gases companies in North America and a major leading supplier to the metal production industry

Linde has many years of experience producing reliable, high-quality industrial gases and technologies for use in the metals and metal processing industries. We supply many of your customers, such as Tier 1 suppliers to the automobile industry. Our engineers will help you select the most cost-effective atmosphere composition for all your product lines and helping you balance the atmosphere flows for consistent product results.



Changing to nitrogen- and hydrogen-based atmospheres can result in cost savings and more consistent performance in sintering, while protecting sintered parts from oxidation and decarburization. Finished parts look bright and clean, while soot formation and oxidation are virtually eliminated. High-purity furnace atmospheres and precise controls ensure close tolerances without affecting metallurgical properties. This consistency and purity can ensure faster furnace start-ups, increased productivity, fewer process interruptions and less idle furnace time due to problem atmospheres.

Hydrogen Supply – Located Nearby

Linde maintains one of the most extensive hydrogen supply networks in North America, strategically located to ensure safe, reliable, supply. Our hydrogen supply capabilities enable us to deliver purities of 99.995 percent from pressurized liquid trailers, on-site storage tanks or via pipeline.

Liquid Nitrogen Storage Systems

Located at the customer's facility and supplied from Linde's extensive network of cryogenic air separation plants, these systems can accommodate dynamic flow patterns and purities greater than 99.999%. An important feature of these systems is that nitrogen supply can be maintained even in the event of a power failure.

Proven Linde Nitrogen Generation Systems

With more than 400 systems installed to date, Linde's reliable on-site nitrogen plants produce high-purity nitrogen starting at 2,000 cubic feet (60 cubic meters) per hour at purities of 99.999 percent and higher. Linde's International Monitoring and Production Assistance Center (IMPAC) in Tonawanda, N.Y., monitors our on-site plants for potential power outages and drops in peak efficiency to ensure uninterrupted supply.

For reliable, cost-effective atmospheres, call Linde – an experienced supplier of industrial gases and technologies to the metal production and processing industries.

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