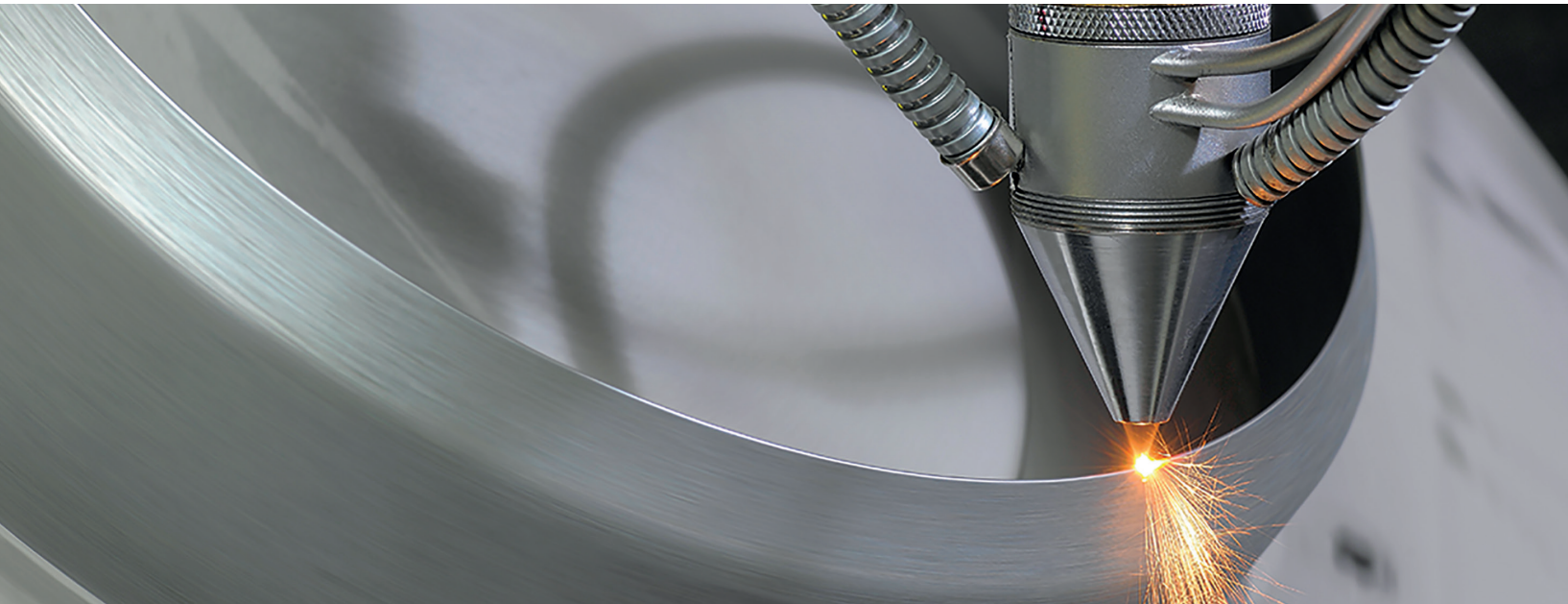


# Additive Manufacturing Solutions

Gas and process expertise for operational excellence



- Avoid production interruptions with the right amount of gas when and where you need it
- Increase safety and minimize risk with Airgas equipment, installation, safety products and gas detection
- Get peace of mind from the industry experts in additive manufacturing processes, gas quality and packaging

## Reliability, Safety, Expertise

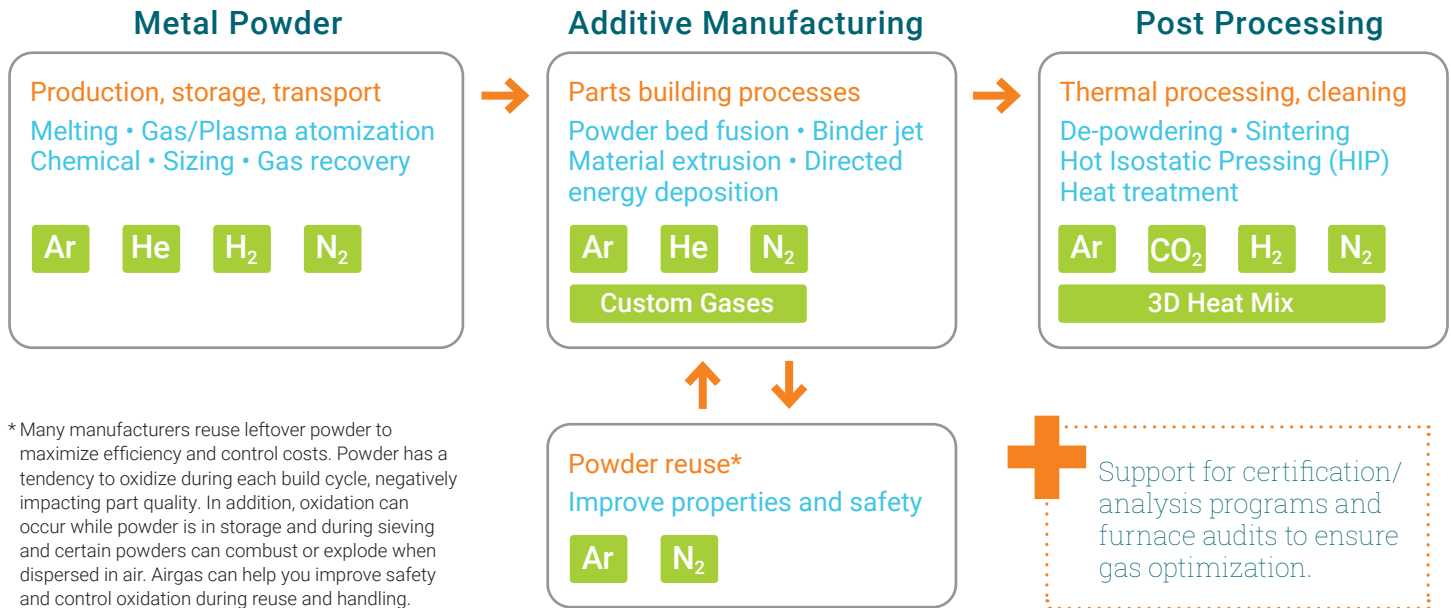
Whether you're just starting out or highly experienced at additive manufacturing, Airgas, an Air Liquide company, is uniquely equipped to optimize your operations. Our expertise and solutions cover the entire additive manufacturing value stream from powder production to 3D printing and post processing. This includes gas-critical processes such as powder bed fusion, binder jetting, directed energy deposition, and metal material extrusion.

Our experts are ready to help you choose the best gas for your particular application, ensuring you have the process stability needed to produce high-quality products, on time and within budget. And while it starts with gas selection, it doesn't end there. We can also work with you to determine the correct purity supply mode, and delivery method, and provide gas utilization assessments, as well as oxygen, dew point and safety monitoring. Let Airgas show you how to create and maintain the optimal environment for printed parts, so you can fill your own potential.

# Additive Manufacturing

A comprehensive offer for reliable and safe gas supply

Airgas gives you the controlled environment you need to create high quality parts that meet exacting standards with minimal impurities. In addition, we offer the technical expertise you need to confidently progress on your additive manufacturing journey.

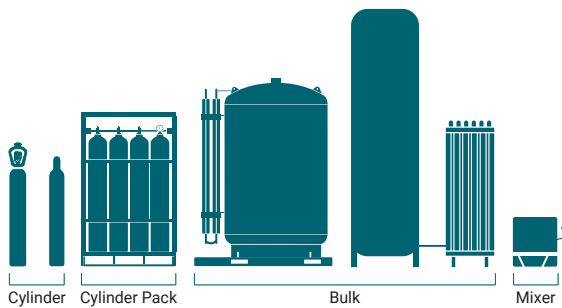


\*Many manufacturers reuse leftover powder to maximize efficiency and control costs. Powder has a tendency to oxidize during each build cycle, negatively impacting part quality. In addition, oxidation can occur while powder is in storage and during sieving and certain powders can combust or explode when dispersed in air. Airgas can help you improve safety and control oxidation during reuse and handling.

## Supply modes and delivery equipment

Selecting the right gas supply mode and equipment is critical to avoid run outs and maintain your schedule. Airgas offers:

- A full range of gas supply modes from cylinders to bulk tanks to FLOXAL™ on-site gas generation systems
- Supply pressure capabilities up to 10,000 psig, with high-pressure storage options available
- ARCAL™ pure argon and argon gas mixtures with SMARTOP™ and EXELTOP™ cylinder valves to reduce gas loss and improve safety
- One of the largest distribution footprints in the US
- EZ-GAZ™ digital remote pressure monitoring and alerts service for cylinder gases that help you optimize your gas supply
- Gas equipment ensures safe gas delivery to your process



Airgas is committed to proactively helping our customers reduce their environmental impact with low-carbon gas solutions. Ask your Airgas Representative for more information.

## Process expertise

Every day manufacturers rely on Airgas for custom gas supply, service and expertise. Airgas stands ready to help select the right gas supply for your production needs, as well as implement solutions designed to optimize your process and minimize risks. Our network of specialists includes expertise in powder metallurgy, welding and advanced metal fabrication, heat treating, safety and supply chain. Our engineering group also designs, builds and installs custom equipment. We can engineer custom gas supply for powder production, set up new gas installations for 3D printing, and manage heat treatment audits with atmosphere analysis and process optimization.

*Fill your Potential.™*

Contact us  
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**Airgas**  
an Air Liquide company