

# HEAT TREATMENT SOLUTIONS

**The right atmosphere makes all the difference.**



**Lower gas consumption. Improved quality. Reduced cost.**

**You'll find it with Airgas.**

Customers today demand higher quality and competitive pricing as the key drivers to doing business. When you consider heat treatment is typically 5-10% of your manufacturing costs, *optimizing* your heat treating operations will give you a competitive edge, while creating more value for your customers.

As a leading supplier of gases for the heat treating industry, our extensive knowledge and engineering expertise will provide a total solution that improves product quality, boosts productivity, lowers costs, and enhances workplace safety.



## Engineering the complete solution.

While Airgas engineers' hands-on expertise in heat treatment is second to none, our capabilities go well beyond analyzing the most effective gas combination for your process. Our ability to analyze, audit and support your heat treating requirements enables you to maximize your production investment by giving you the ability to focus your efforts on other plant operations.

### AIRGAS ATMOSPHERE SOLUTIONS

Process	Artificial Atmosphere	Airgas Supplied Atmosphere	Airgas Advantage
Carburizing/ Carbonitriding	Endothermic Gas	Nitrogen/Methanol/ Small Endo Generator	Operational savings and improved process control
Hardening	Endothermic Gas	Nitrogen/Methanol	Operational savings and improved process control
Annealing	Exothermic/ Endothermic Gas	Nitrogen/Endo Generator	Operational savings and improved process control
Nitriding/ Nitrocarburizing	---	Nitrogen/ Amonia/ Carbon Carrying Gas	Improved process control and higher product quality
Brazing	Dissociated Ammonia	Nitrogen/Hydrogen	Higher product quality and improved process flexibility
Cryotreating	Mechanical Cooling	Liquid Nitrogen	Operational savings and reduced maintenance

## Heat Treating benefits from Airgas.

We provide a total package of engineering support services and customer benefits that include:

- > System design/engineering
- > Complete turnkey operations
- > Flow trains, control panels, and spare parts
- > System start-up and support
- > Process optimization
- > Operation/safety training and audits

## Heat Treating...and much more.

In addition to providing equipment and gases to the heat treatment industry, Airgas is the nation's largest supplier of industrial, medical, and specialty gases, safety equipment and related supplies. With over 1,100 nationwide locations, we're known for providing our customers with personalized, local service for what you need, and when you need it.

**Engineering the Right Solutions for Heat Treating**

**For more information,  
call TOLL-FREE 1-800-265-1375.  
Or, visit [www.airgas.com](http://www.airgas.com).**

**Airgas**  
You'll find it with us.™