

# The Advanced Atmosphere Control System

## A smooth finisher



### System-suitable materials include:

- Carbon steel
- Stainless steel
- Electrical steel
- Copper
- Aluminium
- Titanium
- And others

### Applications when the system can be used:

- Sintering
- Brazing
- Hardening
- Annealing

### Furnace types where the system can be used:

- Belt
- Pusher
- Roller-hearth
- Bell

## A brighter cleaner surface

The innovative Advanced Atmosphere Control System from Air Products regulates the dew point (the amount of water moisture) for controlled heat treatment of metals in Hydrogen (H<sub>2</sub>) or Nitrogen/Hydrogen (N<sub>2</sub>/H<sub>2</sub>) atmospheres.

Monitoring and adjusting the moisture level in the furnace atmospheres allows the processor to avoid completely or control levels of oxidation and decarburisation, and deliver the right degree of bright, clean surface finish in ferrous and non-ferrous metals across the full range of applications and furnace types.

## Designed for perfect results

The Advanced Atmosphere Control System controls two main factors: the ratio of H<sub>2</sub>O/H<sub>2</sub> to avoid oxidation, and the H<sub>2</sub>O level.

Thereby a bright, clean, decarb-free surface finish or controlled oxidation and decarburization can be achieved

Depending on your surface requirements, the dew point or H<sub>2</sub>O/H<sub>2</sub>-ratio can be set for the following annealing conditions:

- Bright and decarb free
- Bright and decarburizing
- Controlled surface oxidation
- Pick-up of C-residuals for cleaning

Air Products N<sub>2</sub>/H<sub>2</sub> atmosphere control panel



## Balanced for the environment

Our nitrogen-hydrogen atmospheres remove the need for more traditional exo- and/or endo-generator systems. Nitrogen, typically the main component in the atmosphere, provides the inert base that prevents undesirable reactions from occurring. Often hydrogen will be added or used to achieve desired metal surface properties. Since no carbon-monoxide is produced, these atmospheres are both safer and more environmentally friendly too.



### Advanced Atmosphere Control System key benefits:

- Helps achieve a clean surface finish
- Reduces product rejects due to decarburisation or oxidation
- Designed for Air Products extended Beltime technology
- Low cost investment
- Allows optimised gas flow control
- Reduces sooting and maintenance of the furnace
- Delivers long-term cost reductions
- Easy to maintain with an Air Products calibration unit

**Meets EN 746 guidelines**  
**Supports CQI-9 Standard**

### Want to find out more?

For more information on the Advanced Atmosphere Control System or to speak with an expert on this or any other Air Products service, contact your local Air Products office:

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