

Air Products solutions for the non-ferrous industry



Our experience

Air Products has delivered combustion equipment and technology solutions to the non-ferrous industry for over 50 years. We supply over 500 customers worldwide who produce aluminium, copper, zinc, lead and precious metals. Genuinely interested in what our customers do, we're always looking for new ways to help them do it better.

We have pioneered the application of industrial gas based technologies on both rotary and reveratory furnaces and are constantly seeking to develop and improve our range. Our focus is to improve productivity and efficiency while reducing waste and emissions in order to save you money. This is demonstrated by our ongoing development of proprietary oxygen-based technologies to enhance combustion, improve yield and productivity and reduce emissions. Close collaboration with our customers has allowed us to prove these technologies in a production environment before bringing them to you.

Our people and expertise

Process knowledge

Our people are focused on specialist industries such as yours and have often worked within them, giving us first-hand experience of the issues and challenges you face. This team is made up of process experts, control and instrumentation engineers and technicians, who are supported by a team of R&D, safety and design specialists. Together they ensure that the products we deliver not only meet your requirements but also all the relevant legislation and codes of practice.

Even when you are up and running, our commitment to you carries on. We are able to provide you with ongoing maintenance, process optimisation and engineering support. This enables you to continually maintain and improve the level of your performance on a long term basis.

Industrial gas supply

We can provide a full range of gases in a broad variety of supply methods to ensure you have the most reliable, convenient and cost-effective option for your needs. From single cylinders, to CryoEase® liquid mini tanks, bulk tank supply and on-site gas generation systems, we offer gas on demand, and can advise on the right supply solution for you as part of our complete process audit.



Research and development

Air Products is continually investing in its Research & Development capabilities with world-class combustion laboratories around the world researching ways we can help our customers melt and cast more effectively. We have opened a Clean Energy laboratory at our global headquarters in North America which will demonstrate how Air Products' industrial gases and technologies can improve a customer's energy efficiency and reduce environmental emissions.

"We have worked with Air Products for many years and through this relationship, we've improved our melting process on rotary and reverb furnaces using different types of technologies. Having used the Air Products High-Yield Oxy-fuel Burner technology for over two years, we've seen an improvement in yield and with the combination of further melting control optimization such as the Advanced Low Emissions Melting System, we've achieved great results on production increase, yield and lower maintenance on ducting and Baghouse system."

Ludek Septun
Production Manager, Remet



Our solutions

Oxygen-enhanced combustion for every furnace type

Key features and benefits:

- Oxy-fuel and air-oxy-fuel burner systems deliver higher productivity and yields compared to conventional air-fuel technologies for all types of rotary and reverberatory furnaces
- Fuel consumption can be reduced with the choice of oil, P.F. and gas delivery systems
- Flexibility of maximising yield whilst minimising waste

Developing innovative solutions for rotary and reverb furnaces

Air Products Advanced Low-Emission Melting System

Following the success of our LEAM® combustion system, we have taken this technology to a new level with the introduction of our proprietary advanced low emission melting system for rotary furnaces.

Key features and benefits:

- Allows furnace users to melt aluminium scrap contaminated with oils, plastics, paints, etc. in an environmentally sound manner, whilst at the same time reducing operating costs
- Optimised temperature control and automated algorithm for oxygen injection
- Combines proven oxy-fuel burner technology with a proprietary atmosphere control system and incorporates

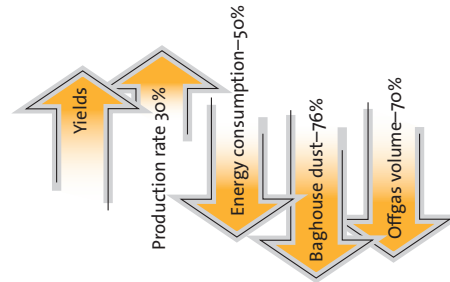
Air Products Uniform Heating Oxy-fuel Burner for reverb furnaces

Key features and benefits:

- Proprietary flameless technology that produces:
 - More uniform furnace temperature
 - High thermal efficiency
 - Increased recirculation of gases
 - Less free oxygen near the melt surface
- Lower oxygen consumption vs. other oxy-fuel systems due to improved mixing

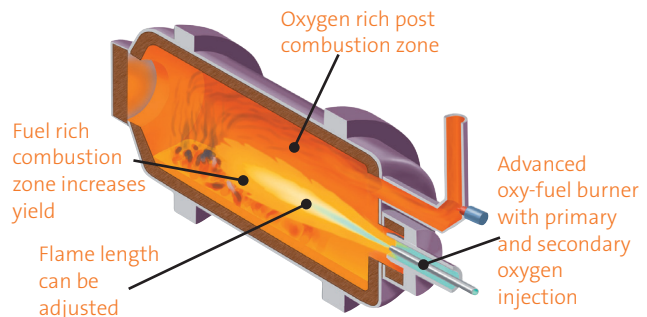
- Water cooled and non water-cooled systems available
- Can be retrofitted to existing air-fuel furnaces or integrated into new installations

Typical performance: vs. air-fuel

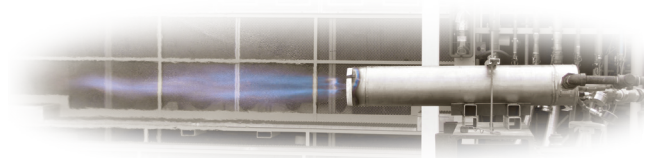


them into a unique furnace layout which can melt a wide variety of contaminated charge materials

- Combustion of the organic contamination has been shown to further reduce fuel consumption
- System can be retrofitted to existing furnaces or integrated into new furnace installations
- Compared to other oxy-fuel technologies:
 - Energy savings of 5-7%
 - Production increase of 5-7%



- Low NOx emissions
- Ideal for scrap melt-down.



tell me more

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