AIR PRODUCTS
SMART GAS ANALYSER

Intelligent monitoring for your furnace atmosphere and operation

To help you make your heat treatment process more sustainable –and generate a cleaner future – we are introducing a new addition to our smart technology range: the Air Products Smart Gas Analyser.

The Air Products Smart Gas Analyser measures up to seven gas components in different ranges. The analyser can be equipped with selected KPI modules for heat treatment processes such as annealing, sintering, hardening or carburising, including a graphical display.

More than just a gas analyser

The Smart Analyser connects to the Air Products Smart View cloud analytics and monitoring platform, providing reporting tools to help you optimise production via web browser or email reports. You can identify problems and optimise your process settings by linking process data to product quality.

It puts you in control, allowing you to choose from a range of parameters and features that are most relevant to your process and that you can benefit from.

As an additional feature in continuous furnace applications, a loading sensor can be applied to also monitor productivity and the impact on atmosphere fluctuations, part quality and cost.

What about quality feedback?

An optional visual inspection of the product at the furnace exit can also be implemented. It will help you close the loop and automatically check the impact of process variations on visual surface quality.

Smart Process Optimisation

Smart Interface

Smart Monitoring

Smart Reporting

Data Storage and Analytics
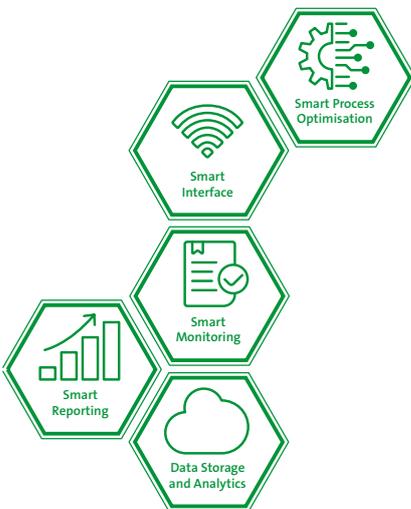
A wide range of monitoring capabilities

With multiple monitoring functions, the Smart Gas Analyser allows you to decide which parameters are most relevant to your production process:

- O_2 (0-1000 ppm)
- Lambda probe (0-1300 mV)
- Dew Point (-80 to +20C)
- CO (0-30%)
- CO_2 (0-5%)
- H_2 (0-100%)
- CH_4 (0-10%)
- PQT Gas Density Sensor

Key benefits

- Monitoring up to seven parameters of your choice using a single analyser
- Gain process insights to understand the underlying cause of quality variations
- Reduce rejects and improve surface finish
- Optimise atmosphere composition
- Monitor key process parameters (KPIs) to help production team achieve the targets
- Visual alarms supporting predictive maintenance and reducing unplanned shut-downs
- Achieve more consistent results
- Reduce total cost per part
- Reduce your carbon footprint

SMART features and KPIs

The Smart Gas Analyser is equipped with heat treatment KPI modules for process optimisation and control modules:
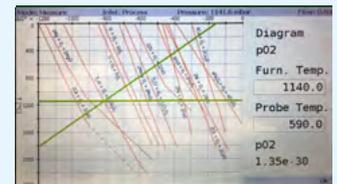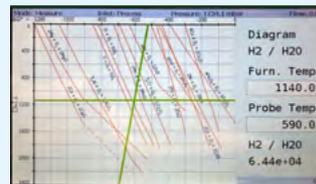
- H_2/H_2O • Dew point (calc) • pO_2 • Carbon potential (Cp)

Easy access to your data via the cloud

The Smart Gas Analyser connects to the Air Products Smart Technology cloud analytics and monitoring platform, providing reporting tools to help you optimise your production processes.

Ambient Conditions Monitoring

Wireless comms. unit

Gas Analyser & Data Acquisition

Incl. Novel sensors

SCADA/PLC
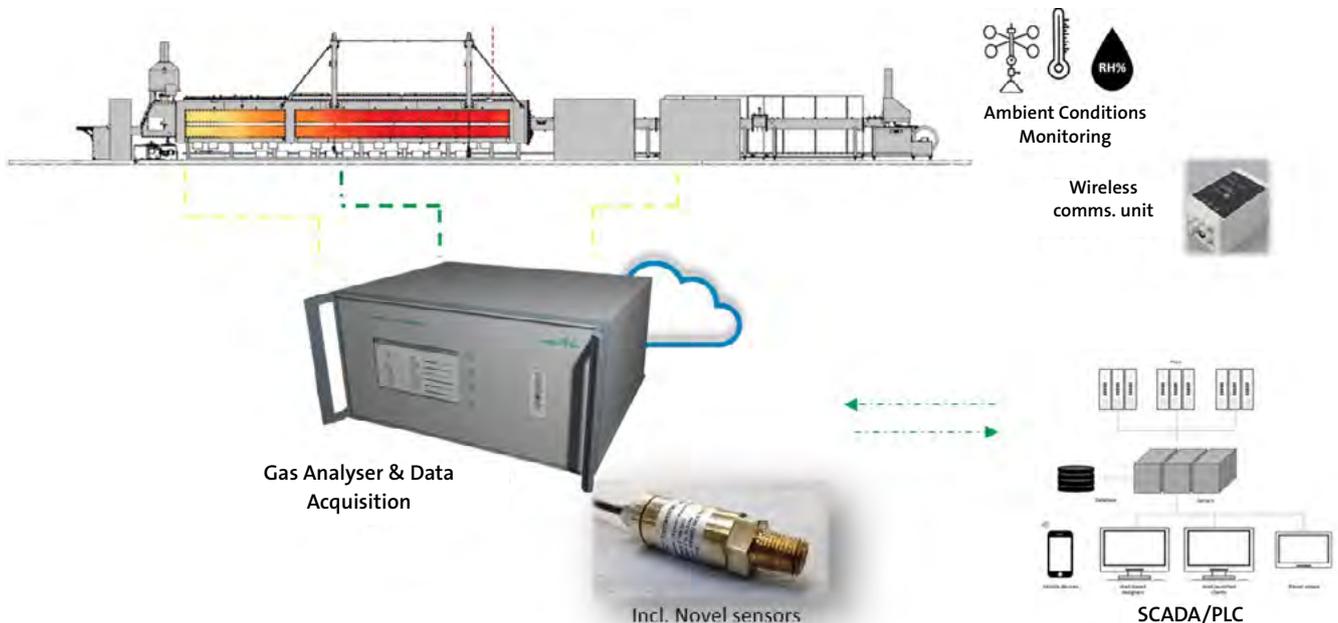
The Smart Analyser can be used for a wide range of materials, applications and furnace types:

Materials
Carbon Steel
Stainless Steel
Electrical Steel
Copper
Aluminum
Titanium
Others

Applications
Sintering
Brazing
Hardening
Annealing
Inerting

## Types of furnaces
Belt
Pusher
Roller-hearth
Bell

Overview of Air Products Smart Technology features

Air Products Smart HMI Interface

Historical trends monitoring

Daily email/ pdf reporting
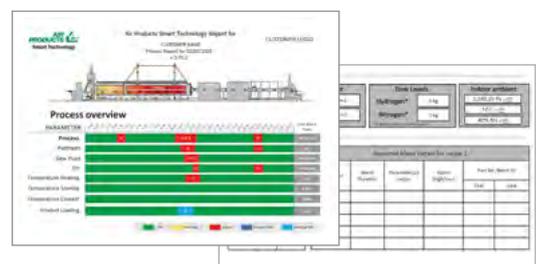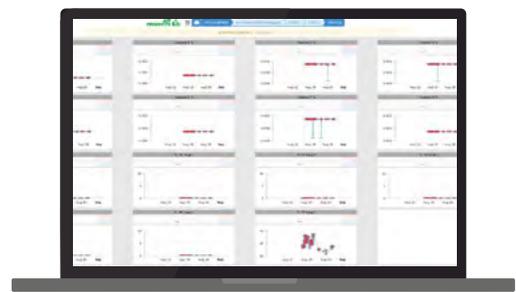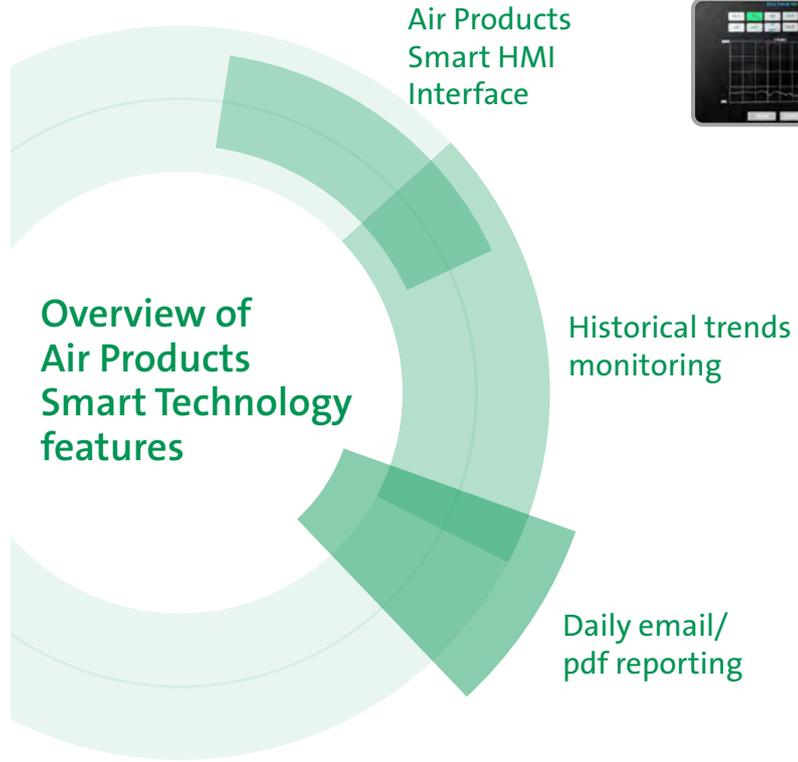
All-in-one tool to optimise your process

Closing the loop and linking the atmosphere and furnace data with product quality, helps you identify the issues early on, optimise the process settings, and consistently achieve a quality finish.

Furnace

Smart Atmosphere Analysers

Communications System

Cloud Server

Advanced Analytics Processing in the Cloud

Operator

Gas Supply

Transmitter

Reports and Alerts
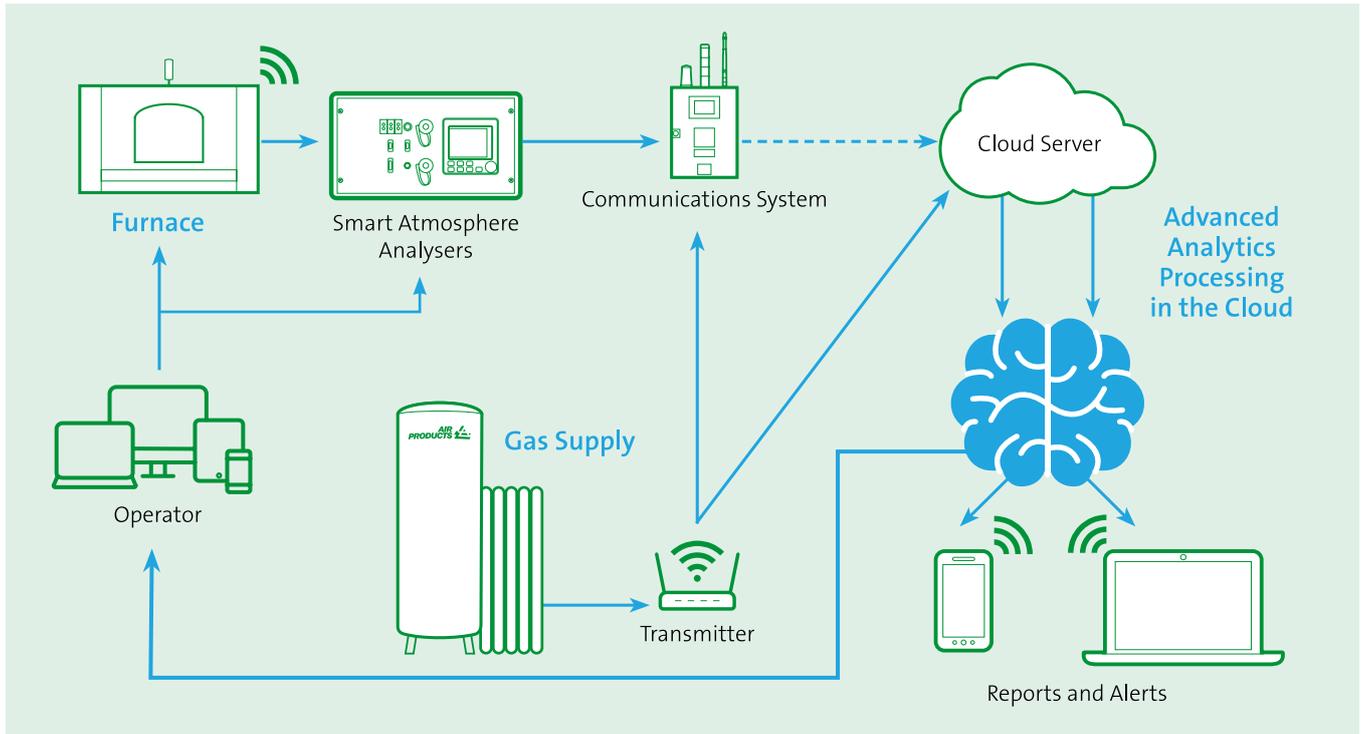
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