

Take a closer look at
Speciality Gases



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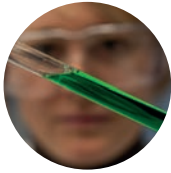
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Ultra High Purity Gases

Whatever your application, be it chemical analysis or process control, our UHP (ultra-high purity) gas range offers you the optimum gas solution.



*Highest purity
with the
lowest impurity
levels*

Change the way you think about high purity gas, with BIP® technology

By starting with ultra-pure gas and delivering it through our award winning BIP® technology cylinders we can guarantee the lowest levels of impurities available in the marketplace today.

Every BIP® nitrogen, helium and argon cylinder contains less than 10ppb of oxygen and less than 20ppb of water. BIP® technology hydrogen contains less than 100ppb of oxygen, less than 20ppb of water and less than 10ppb of THC.

All of our ultra-high purity gases come with guaranteed purity levels, certificates of conformity are available on request.

- Acetylene
- Air
- Argon*
- Carbon Dioxide
- Helium*
- Hydrogen*
- Nitrogen*
- Oxygen

* Available in BIP® technology cylinders



“The BIP® cylinder technology from Air Products has demonstrated the potential for cost savings up to 70% in the FAME (fatty acid methyl ester) analysis system.”

Dr. A Edge, Case study partner, UK



Non-refillable Canisters

Non-refillable canisters offer a portable solution, making them ideal for function testing of gas detection and analytical equipment.

Many mixtures, reactive or non-reactive, including all the common quad and test gas variants, are available from stock, and bespoke mixtures can be supplied with minimum lead time.

Air Products' canisters provide the ideal solution in the following scenarios:

- **Test gas for on-site function testing**
Exceptional portability and simple operation make canisters ideal for on-site calibration of gas detectors.
- **Small quantities of speciality gases required**
Non-refillable canisters provide a cost-effective solution for low or infrequent usage.
- **Remote users of Speciality Gases**
The lightweight and compact nature of non-refillable canisters makes them easier and cheaper to transport than traditional cylinders.
- **Gas detector OEMs and distributors**
Canisters are essential calibration accessories for portable and personal gas detection equipment. Ask about our private labelling options for larger users or OEM distributors.

The *perfect* compromise between
gas capacity and *portability*



Typical applications for gases in canisters include:

- Oxygen depletion and alarm testing
- Gas detection and industrial hygiene
- Academic research
- Hazardous materials management
- Breath alcohol testing
- Refrigerant leak detection
- Food atmosphere analysis
- Mud logging

Canisters are available in a range of sizes we offer: aerosols, 34, 58 and 110L canister options. Our tried and tested canister preparation ensures that we can offer optimum stability, and maximum shelf life.

Regulators

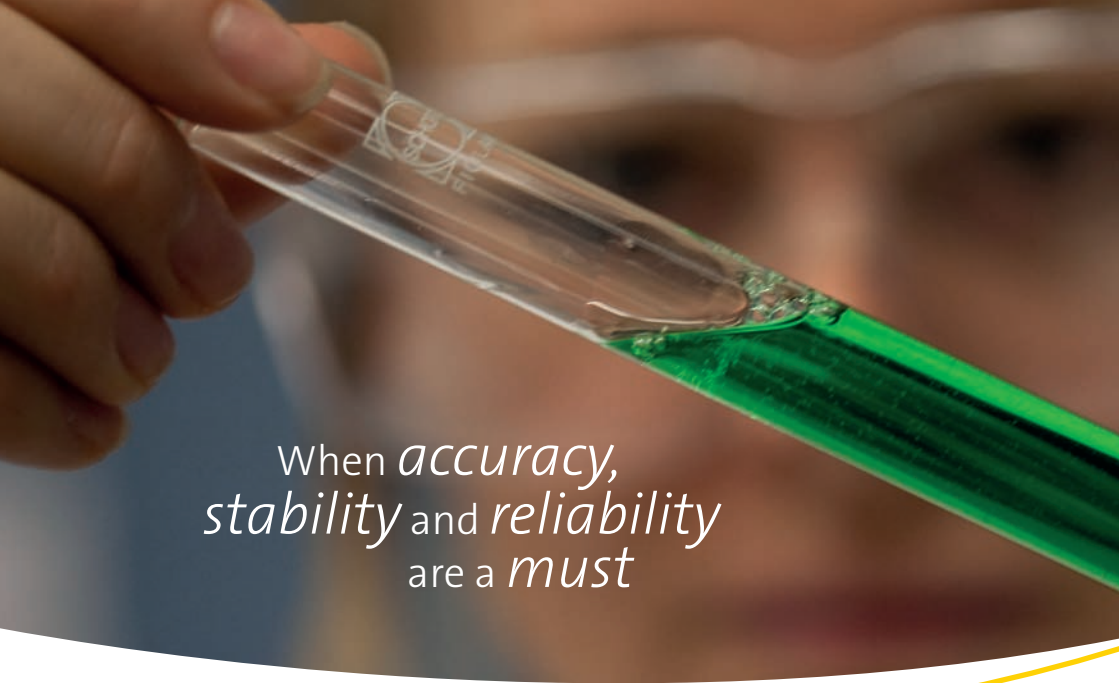
To complement our extensive range of non-refillable canisters we have a diverse portfolio of regulators, suitable for almost any application and flow rate.



Accessories

We offer a range of complimentary accessories, including carry cases.





When *accuracy*,
stability and *reliability*
are a *must*

Gas Mixtures

By understanding our customers' needs, we have developed our Experis® range of gas mixtures to provide:

- Accuracy
- Stability
- Traceability
- Peace of Mind

Accuracy

Air Products has been at the cutting edge of gas mixture preparation for many years and has worked tirelessly in improving the accuracy of our mixtures. We ensure that we are delivering market leading accuracies by combining expert knowledge with:

- The latest in high accuracy measurement equipment
- State of the art filling techniques
- A vast library of reference materials from national measurement institutes



“Analytical equipment is improving in accuracy all the time – but even the best can’t be relied on without proper calibration.”

Ir. Peter Aernouts
Instrumentation Engineer,
Analytical Systems
Elster-Instromet NV Belgium

Uncertainty

Uniquely to Air Products, the standard uncertainty of measurement for all our certified gas mixtures is calculated individually for each mixture component, and for many components we offer uncertainties down to +/- 0.05 %.

By providing the highest level of accuracy and the lowest level of uncertainty, we are helping our customers to be safer, compliant, more competitive, and more profitable, as well as allowing them to achieve technical excellence across a wide range of industries and applications.

Examples of industries where customers of Air Products mixtures operate are highlighted below:

- Analytical & laboratories
- Air emissions & air quality
- Automotive
- Chemicals & petrochemical
- Food (MAP)
- Gas detection & industrial hygiene
- Medical
- Pharmaceutical
- Oil & gas
- Gas appliance testing
- Laser
- Lighting control
- Window insulation

Experis® ISO 17025 accredited calibration mixtures

The ultimate in accuracy and traceability.

Air Products' Experis® gas range of accredited mixtures are produced at our state-of-the-art accredited laboratory in accordance with the international standard ISO 17025, and have been developed specifically for the analytical gas user, offering mixture stability, certification and traceability to meet even the most stringent analytical needs.

For air emissions monitoring

Air Products' comprehensive ISO 17025 accreditation scope is optimised to serve our customers in the environmental and air emissions monitoring sectors. Uniquely from Air Products, it is now possible to source calibration gas mixtures containing all of the components NO, SO₂, CO and CO₂ in the same cylinder, certified by an ISO 17025 accredited calibration laboratory. This provides users with a number of important technical, safety, and cost benefits over more commonly available binary gas mixtures.



Technical benefits

Calibration using traditional binary mixtures can lead to errors in the analysis of stack gases due to cross-sensitivity effects, hence the value of these products in all aspects of EN 14181 compliance. Additionally, calibration using binary mixtures often does not take into account cross sensitivity effects.

Some of the applications within which Air Products' customers operate are highlighted below:

- Automotive
- Chemical
- Pharmaceutical
- Natural gas
- Environmental

CryoEase® microbulk

Whatever your application, the CryoEase® service offers a convenient and secure supply of high purity gases.

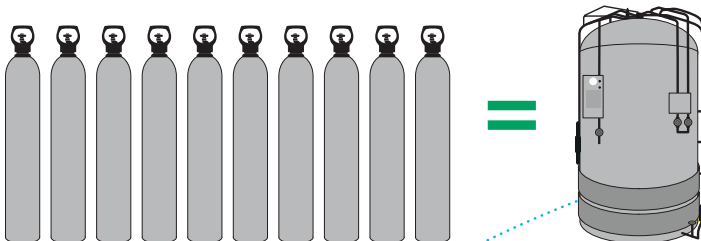
The CryoEase® service has been specially designed to bring the convenience of cryogenic liquid deliveries to customers traditionally supplied with cylinders and cylinder packs. It perfectly complements the extensive Air Products cylinder gases range and may be a cost-effective choice for customers using as few as 10 large cylinders per month of a single product.

The following gases and mixtures, both liquid and gaseous can be supplied using the CryoEase® service:

- Oxygen
- Nitrogen
- Argon
- Carbon dioxide
- Argon-based mixtures
- Nitrogen-based mixtures



If you're using *10 cylinders* or more a month, you need our *CryoEase® Service*.



Biomedical

Air Products offers a complete solution for all your cryogenic storage needs. Working alongside Chart Biomedical, world leaders in cryogenic freezers, we provide the optimum solution for your needs: from the supply of liquid nitrogen to the safest and most economical storage of your samples.

The Chart MVE range of cryogenic freezers offer a range of benefits for your sample storage needs, including:

- **Efficiency** – Lowest liquid nitrogen consumption in the industry.
- **Stability** – Lowest below-the-lid nitrogen vapour temperatures.
- **Sample security** – Freezer temperatures can be maintained for up to 23 days without liquid nitrogen supply.
- **Ease of access** – With an offset lid, free-moving internal storage and integrated step (High Efficiency series)
- **Improved safety** – The facility for nitrogen vapour storage considerably reduces any splashing hazard for the operator.
- **Reduced Carbon Footprint** – The energy requirement is less than 1% of that for mechanical -150°C freezers.
- **Optimised capacity** – A variety of height options enable maximum storage capacity without compromising on footprint.
- **Easy operation** – Via the touchscreen controller.





The complete solution for
Cryogenic storage Freezers
and *Gas Supply*

Features of the MVE TS (Touchscreen) controller include:

- **Auto-fill system**
- **Integrated hot gas by-pass facility**
- **Keyless security**
- **Audio and visual alarms for both level and temperature**
- **Time date storage of 30,000 most recent events**
- **Optional battery back-up**

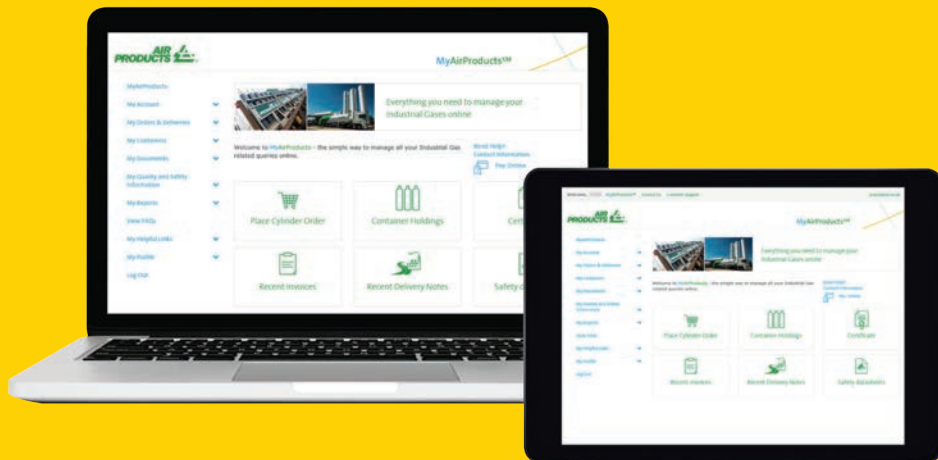
Dewars and Dry Vapour Shippers

Our liquid dewars are efficient, super insulated and are the most convenient, economical way to store and dispense liquid nitrogen.

By utilising advanced materials our MVE CryoShipper Series can be charged with liquid nitrogen in less than two hours, providing the capacity for same-day vapour shipping when required.

Dry vapour shippers feature hydrophobic materials which absorb the liquid nitrogen to ensure dry, spill-free vapour-phase shipping. Aluminium construction makes our dry vapour shippers durable and lightweight.

MyAirProductsSM



Everything you need to manage your gas, at your fingertips

See all your accounts in one place, view recent invoices and delivery notes, access useful stock reports and place orders. Accessible on PC, tablet and smart phone.

To find out more or register, please visit:

airproducts.co.uk/myairproducts



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