

Industrial Gas Supply Options

Optimum Solutions For Your Business



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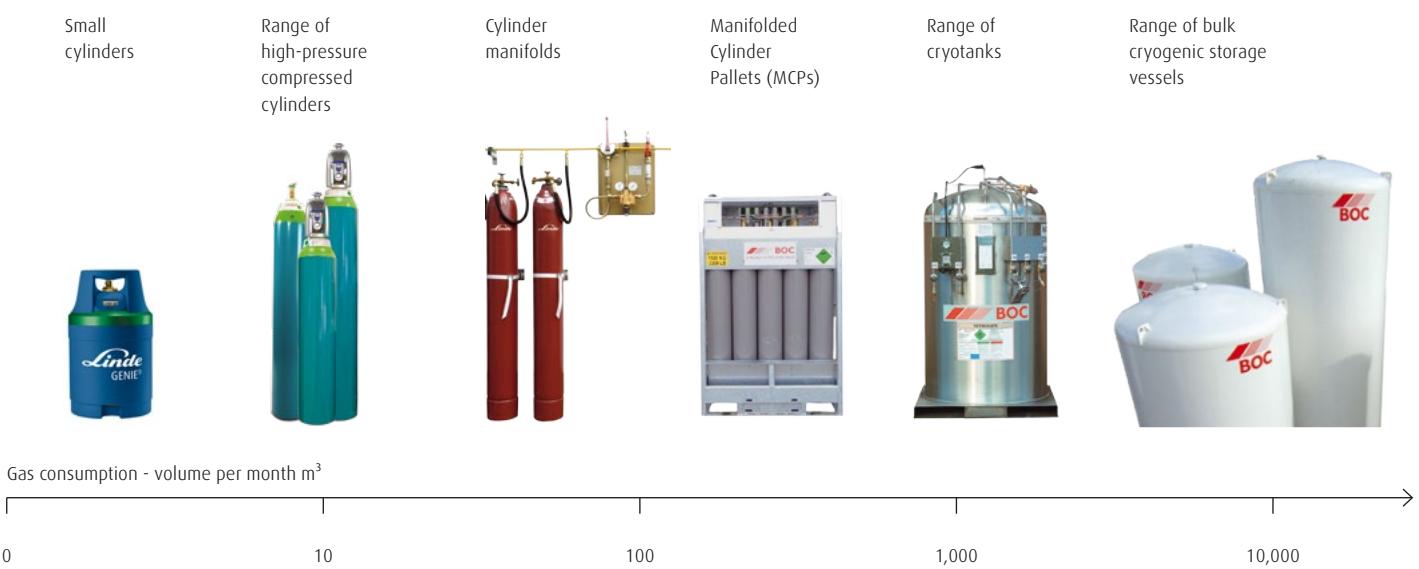
Optimum supply solutions for your business

Your gas supply package can influence your productivity. Frequent handling and changeover of single cylinders can increase non-productive time, reduce your efficiency and ultimately increase your costs.

To optimise your gas efficiency, you need to match your gas supply to your demand. BOC offers a range of products and services that will help to make your business as efficient and productive as possible.

- Packages tailored to suit your requirements
- A quick, reliable and flexible service
- Efficient supply, helping to reduce your gas supply costs
- Expert advice to enhance your business

Supply mode selection guide for oxygen, nitrogen, argon and carbon dioxide



Industrial gases are used in a wide range of processes and the demand varies according to the different requirements of individual customers. The chart gives an indication of the volume relationship between certain supply methods, but volume is not the only thing you should consider when choosing a supply solution. Pressure and flow rate also need to be considered. BOC can provide all the information you need to help you determine the most appropriate and cost effective gas supply solution.

From design to delivery

BOC has developed a comprehensive range of gas supply solutions to suit all users and demands. No matter what your gas requirements, BOC can offer you the right gas solution, supplied in the most effective way. Our Customer Engineering Services team also provide technical support and can assist you in the design and installation of your gas supply system.

Compressed cylinders

Small volumes of compressed gases are usually supplied in single high pressure cylinders. Available in a wide range of sizes and pressures, from small portable packages to large cylinders, they offer high versatility, flexibility and mobility. They can be delivered promptly by our nationwide delivery network or collected from one of over 400 outlets throughout the UK.

Advantages

- Portable
- No initial set up costs, requires only a regulator for immediate gas supply
- Cost-effective for low volumes
- Available for all gas products
- High-pressure supply capability

300 bar

In addition to the standard range of gases BOC offers a 33 litre and 50 litre 300 bar cylinder package across a range of products providing up to 42% more gas than that of 230 bar cylinders.

Advantages

- Cylinder management efficiencies
- Improved stocking levels
- Reduced downtime with fewer cylinder changes
- Potentially fewer deliveries
- Less ordering



Gases can be supplied in a range of different cylinder sizes to suit individual needs



T connection is used to expand a manifold with more than 1+1 cylinders.



Manifolded Cylinder Pallets or packs consist of a number of cylinders connected together with a single or dual outlet.

Cylinder manifolds

Two or more compressed cylinders can be manifolded together in banks to provide a greater source of supply. A Manifold usually has two independent sets of controls to permit alternate or simultaneous operation of the two cylinder banks.

Advantages

- Increased storage capacity that can be added to if needs increase
- Single gas storage point means increased safety
- Security of supply
- Significantly reduced cylinder handling costs
- Addition of automatic changeover manifolds ensures uninterrupted gas supply

Manifolded Cylinder Pallets (MCPs)

Manifolded Cylinder Pallets or packs consist of a number of cylinders connected together with a single or dual outlet. Typical MCPs contain 15 cylinders and provide an uninterrupted supply of gas in a package that can be readily transported with a forklift truck. BOC supplies a full range of MCPs comprising of both pure and mixed gases. They can be used directly at the point of use or to supply pipeline gas distribution systems and installed with automatic changeover manifolds to ensure continuous gas supply.

Advantages

- Compact, providing increased storage capacity
- Single gas storage point means increased safety
- Security of supply
- Available for most pure gases and gas mixtures
- Significantly reduced cylinder handling costs



Our Cryogenic liquid is stored in vacuum insulated vessels which are filled on site by the CRYOSPEED sales and service operators.



For customers with high volume requirements and operations suited to piped supplies of gas, a bulk cryogenic storage vessel sited on the premises offers the best solution.

Cryotanks (liquid cylinders) supplied by BOC's CRYOSPEED® service

Atmospheric gases can be stored as cryogenic liquids that take up much less space than compressed gases. Whether your business requires gas in large or small volumes, CRYOSPEED can meet your needs by providing a hands free delivery of liquid argon, carbon dioxide, nitrogen and oxygen. Our Cryogenic liquid is stored in vacuum insulated vessels which are filled on site by the CRYOSPEED sales and service operators. To complement the supply of gas CRYOSPEED offers a wide range of vessels and equipment to support their safe handling, usage and storage.

Delivered by the largest mini-bulk fleet in the UK and Ireland, CRYOSPEED can be found in more places more often than any other supplier. Our operators will deliver your gas without assistance and have the experience and flexibility to provide true security of supply.

Advantages

- Compact design – smaller footprint than the equivalent volume of gas in compressed gas cylinders
- Bespoke and personalised delivery service – you discuss your needs with an experienced CRYOSPEED sales and service operator who is responsible for ensuring you have gas when you need it eliminating the need to place orders
- Continuous uninterrupted supply of gas that can eliminate any downtime
- Hands free supply eliminating manual handling of cylinders Improved safety management of gas when it is stored externally and piped to point of use
- Vessels remain on site and are simply topped up as required

Bulk supply

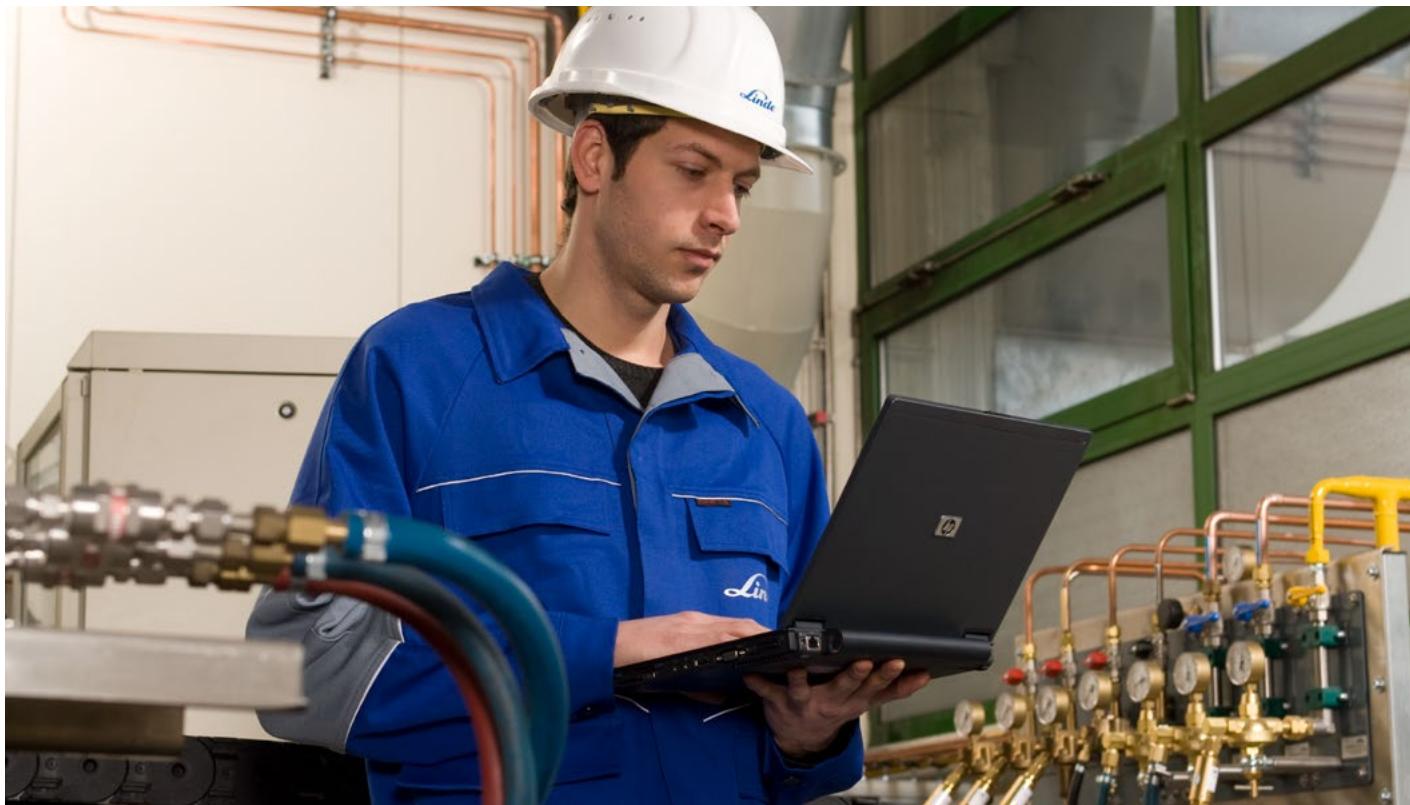
For customers with high volume requirements and operations suited to piped supplies of gas, a bulk cryogenic storage vessel sited on the premises offers the best solution. These vessels contain liquefied gas that can be used either in cryogenic liquid form or vaporised to provide a continuous gaseous supply. The vessels are available in a variety of sizes and pressures to suit individual customer requirements; BOC will advise on where to locate vessels and safety considerations. Oxygen, argon, nitrogen and carbon dioxide can all be supplied as bulk liquids. Vessels can be fitted with low level alarms and many are supplied with BOC's "tel-tank" remote monitoring equipment as standard. BOC will be happy to advise on the best supply management option for your business.

Advantages

- Cost effective for high volumes
- Continuous supply
- No handling costs
- No downtime
- High level of consistency and purity

Tel-tank

The BOC "tel-tank" monitoring system constantly gauges the volume in your storage vessel, meaning you do not have to make and order; we automatically deliver gas as required. This system can provide you with information to help improve your efficiency.



Technician carrying out a maintenance service at the customer central gas supply installation.

On site facilities

On site gas mixing

For many applications there is a requirement for specific gas mixtures, particularly for welding and heat treatment. These mixtures can be generated from cylinder, liquid or bulk supplies and accurately blended by a gas mixing panel. The gas mixture is then supplied to the point of use by a distribution pipeline which BOC can design and install. BOC also offers a wide range of gas control equipment to ensure the optimised performance of your gas supply.

Mixers can provide blends that meet very tight tolerances, assuring the user that they are consistently receiving the correct blend. On site gas mixing means changing production requirements can always be met.

On site generation – ECOVAR®

BOC's extensive ECOVAR®(ECOnomical VAriable Reliable) range of generation systems are most suited to relatively steady demand patterns of nitrogen, oxygen and hydrogen over a wide range of flowrates. ECOVAR® supply schemes can be designed for specific flow and purity requirements, to meet customer needs.

Design, installation and maintenance

Industrial gas supply schemes can take many forms to suit a wide range of customers needs, and BOC's extensive and experienced engineering capability encompasses the design, installation and maintenance of the gas supply system, distribution pipe work and gas control equipment. Maintenance of industrial gas supply schemes on customer sites is carried out by BOC's experienced network of Customer Engineering Services (CES) technicians who provide national coverage and ensure that all appropriate safety regulations are strictly adhered to.



All of our supply options, installations and delivery procedures are designed with safety in mind.

Ensuring safety, legal compliance and efficiency

All of our supply options, installations and delivery procedures are designed with safety in mind and fully comply with the latest regulations and standards.

BOC is a member of the British Compressed Gases Association (BCGA) which means all industry approved codes of practice are fully adhered to. BOC work together with our customers to ensure their gas storage and distribution systems are safely designed, installed, operated, maintained and inspected in accordance with legislation and industry codes of practice.

To ensure owners and users of pressure systems operate them safely, legislation such as the Pressure Systems Safety Regulations (PSSR), and the Provision and Use of Work Equipment Regulations (PUWER) set out clear statutory requirements that must be followed.

Performing the right maintenance on your pressure systems can help avoid serious harm to people and the environment, avoid equipment malfunction and failure, avoid inefficient operation, avoid financial losses associated with loss of production, and avoid loss of reputation and even prosecution.

To ensure you comply with applicable regulations, and safely maintain your own industrial gas supply and distribution systems, BOC offers the OnStream® service. We carry out an initial series of physical examinations of your compressed gas and cryogenic pressure systems and then, upon satisfactory completion, issue you appropriate documentation to help you demonstrate appropriate statutory compliance. We can then offer you an inclusive maintenance package to help keep your systems safe, reliable and efficient.

Management service

For customers operating large sites with diverse gas requirements, administration, distribution and handling contribute significantly to the total gas supply cost. BOC can offer a range of services for all your gas management requirements; from basic cylinder management to total on site gas facilities management.

BOC flexibility

Gas requirements are seldom static and your current supply solution may not be appropriate in the future. BOC, with its comprehensive range of gas supply solutions, can always offer you the best option for your application. We keep in touch with our customers and respond quickly to changes in their needs.

BOC – turning ideas into solutions

BOC is a member of The Linde Group, the leading global gases and engineering company. BOC is the UK's largest provider of industrial, specialist and medical gases, as well as related products and services. As a leader in the application of technology, we are constantly looking for new ways to provide our customers with high quality products and innovative solutions.

At BOC we help our customers to create added value, clearly discernible competitive advantage and hence greater profitability.

To achieve this we have a comprehensive range of products and services, and technical support which can be customised to meet the individual requirements of our clients.

To keep ahead of the competition in today's market, you need a partner for whom quality, service, process and productivity optimisation are an integral part of customer support. We are there for you and with you, helping to build your success.

BOC's reputation has been forged through partnerships – with customers, with relevant regulatory authorities and with key suppliers. In this way, we deliver comprehensive and consistent benefits to you.

BOC – world-leading knowledge and resources adapted to local requirements.

For product and safety enquiries please contact:

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