



Ensuring you have a 100% guaranteed source of high quality gases

Our geographic reach

Gulf Cryo is a leading manufacturer of industrial, medical, food-grade, and speciality gases in the Middle East. Covering all of the GCC, Jordan, Syria, Pakistan, Egypt and Iraq, our highly skilled engineers work with the oil, gas and petrochemical industries developing technology to advance processes and techniques through innovative gas applications.



Our gas solutions

Application	Our products
 Upstream Oil well pressurisation Enhanced oil recovery (EOR) Oil well stimulation Downstream Blanketing of tanks Preventing the release of hydrocarbon emissions Preventing Oxygen ingress into vacuum units Purging Supply of Oxygen, Nitrogen and Hydrogen as process feed stock Calm chemical reactions Safely shutdown or start up refinery units Lowering Sulphur content in hydrocrackers and hydro-treaters Sulphur recovery applications Pipeline pigging Combustion efficiency at the furnace Break down of heavy hydrocarbons during the catalytic cracking process 	 Nitrogen Hydrogen Oxygen Carbon dioxide Acetylene Argon Nitrous oxide Mixed gases Specialty gases Dry ice Helium





JCryo progressive by nature

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Helping you improve quality, increase productivity and reduce costs

Our geographic reach

Gulf Cryo is a leading manufacturer of industrial, medical, food-grade, and speciality gases in the Middle East. Covering all of the GCC, Jordan Syria, Pakistan, Egypt and Iraq, our highly skilled engineers work with the metals processing industry developing technology to advance processes and techniques through innovative gas applications.

Liquid and compressed pure gases
Gas mixtures for specific use
Shielding gases





The Middle East is abundantly endowed with oil and gas resources. However, as the world economy grows and the demand for energy increases the drive to improve efficiency, cost effectiveness and environmental stewardship has become a key driver in decision making.



How we work with you

Our gases

Our gas solutions

At Gulf Cryo, gases and gas mixtures are prepared under controlled conditions following strict international standards ensuring tolerances are clearly defined.

Pure gases

Argon Carbon Dioxide

Acetylene

(Liquid and compres

Our gases

Our supply and packaging options

At Gulf Cryo, gases and gas mixtures are prepared under controlled conditions following strict international standards ensuring tolerances are clearly defined.

With 13 subsidiaries covering ten countries in the Middle East, Gulf Cryo covers a vast territory offering the supply of gases and the installation of equipment. We will provide you with the best available supply package to suit your business requirements.

mixed gases

Pipeline installation Bulk installation

Technical support

Cylinder maintenance On-site equipment maintenance Air separation unit installation Equipment supply

Analysis of customer requirements

Design, engineering and installation

Purity	Options	
98.5%	Air separation unit installation	Full gas supply distribution network
99.999%	ISO tanks and road tankers	Spot requirements for bulk products
99.9%	Tube trailers	Smaller requirements





Glass Industry





For over half a century, Gulf Cryo has been supplying gases and developing new applications for the glass industry.



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Helping you enhance quality, improve processes and reduce energy consumption

Our geographic reach

Gulf Cryo is a leading manufacturer of industrial, medical, food-grade, and speciality gases in the Middle East. Covering all of the GCC, Jordan, Syria, Pakistan, Egypt and Iraq, our highly skilled engineers work with glass manufacturers developing technology to advance processes and techniques through innovative gas applications.







The customer challenge

The complex production process of glass manufacturing makes it one of the most energy intensive industries in terms of the amount of energy used per unit of product. With rising energy costs and increasing environmental regulations, glass manufacturers are looking for innovative ways to drive cost down, improve productivity and ultimately enhance product quality. Industrial gases used in the glass making process have a significant impact on the strength, optical and thermal properties of the glass and hence it is important that glass manufacturers have a reliable supply of high quality gases.



How we work with you

Gulf Cryo's dedicated technical team understands the challenges glass manufacturers face in finding the right gas solution as a variety of gases can be used in different glass making processes. Gulf Cryo offer expertise in supplying gases for glass melting, polishing and surface treatment as well as a range of supply schemes from on-site installations of plants to truck delivery.

Our engineers can implement a total gas management service handling the operation and maintenance of the gas plants, assuring a 100% guaranteed source of high quality gases in the pipeline with an additional back-up bulk gas service.

Our gas solutions

Applications	Our products	Our services
 Glass melting Glass polishing 	• Oxygen	 Production and supply of high purity and mixed gases
Lubrication for glass bottle and tableware manufacturing	• Acetylene	Analysis of customer requirements
Creating an inert atmosphere	• Nitrogen	
Maintaining positive pressure for float glass manufacturing		Operation and maintenance of gas plants
 Glass coating on float glass to produce Reflectasol (solar control glass) 	• Silane	 Bulk and gas cylinder delivery
Displacing oxidant in the float glass process Heat treatment of fibre optic pre-forms	 Hydrogen/Nitrogen mix Hydrogen 	 Design, engineering and installation
Drawing of fibre optic pre-forms Gas filling in bulbs and tube lights for	 High purity speciality gases Helium 	
imparting various colour and lighting characteristics		
Insulation gas Surface treatment/coating to increase glass durability	• Argon • Sulphur Dioxide	

Our gases

At Gulf Cryo, gases and gas mixtures are prepared under controlled conditions following strict international standards ensuring tolerances are clearly defined.

Pure gases (Liquid and compressed)	Purity
Liquid Nitrogen	99.999%
Liquid Oxygen	99.5%
Compressed pure gases	Purity
Nitrogen	99.999%
Oxygen	99.5%
Hydrogen	99.999%
Acetylene	98.5%
Helium	99.999%

Our supply and packaging options

With 13 subsidiaries covering ten countries in the Middle East, Gulf Cryo covers a vast territory offering the supply of gases and the installation of equipment.

Bulk gases	Capacity	Working pressure (barg)
Cryogenic storage tanks Liquid gas cylinders (dewars)	2000 - 75,000 litres 180 - 1000 litres	3 - 30 2 - 37
Compressed gases	Capacity	Working pressure (barg)

Talk to our applications engineers to identify the right solution for you.



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The Compressed Gas Associa



Gulf Cryo subsidiaries are members of:

The International Oxygen Manufacturers Association



For over 60 years, Gulf Cryo has been manufacturing and supplying industrial, medical and specialty gases to a wide range of industries across the Middle East. Established in 1953 as the Kuwait Oxygen and Acetylene Company, the Gulf Cryo group now comprises of over 30 production and distribution sites operating in 12 countries, including all of the GCC, Jordan, Syria, Egypt, Iraq, Turkey and Austria.

Water Treatment Gas Applications





Our Services

Gulf Cryo offers several services to the wastewater industry in order to improve the overall performance of the treatment process and make it environmentally friendly. Our experts work closely together with customers in order to achieve tailor-made solutions that target their needs directly.

The Industry Challenge

The wastewater industry strives to reach the highest possible yields while minimizing energy and material costs. Currently, the major challenge for the treatment plants is reaching a full capacity and not being able to accommodate for the increasing demands.

Due to the increasing environmental regulations, a new challenge has also emerged and it consists of minimizing the usage of chemicals, while retaining the efficiency of the process and the quality of the product.



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Our Technologies



Our Gases

Pure Gases	Purity
Oxygen (O2)	99.5%
Carbon Dioxide (CO2)	99.9%

For Ozone requirements, on-site ozone generation is set up along with Oxygen supply.



Benefits of Oxygen Injection Compared to Standard Aeration

- Increases treatment capacity using the same facility, without the need for additional investment
- Reduces odors & volatile organic compounds emission
- Saves up to 40% in energy and operating expenses
- Reduces Hydrogen sulfide (H2S) formation
- Reduces aerosol formation
- Improves sludge settling
- · Complies with stricter water discharge standards
- Diminishes hydraulic breakdowns



Benefits of Carbon Dioxide Injection Compared to Standard Acidification

- · Eco-friendly, safe and simple pH control
- No possibility of overdosing
- · No handling of hazardous acids
- · Low investment & operating costs
- No corrosion problems





Benefits of Ozone Injection Compared to Standard Chlorination

- Enhanced disinfection as Ozone is the most effective disinfectant
- Removal of organic & inorganic matter, including micro-pollutants such as pesticides
- \bullet Reduction of sludge by up to 80%
- Odour and taste elimination





Email us: applications@gulfcryo.com or call us: +971 8848199 Visit us: www.gulfcryo.com



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Our gas solutions

Application

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Helping you boost productivity,
reduce costs and improve
environmental impact

Our geographic reach

Gulf Cryo is a leading manufacturer of industrial, medical, food-grade, and speciality gases in the Middle East. Covering all of the GCC, Jordan, Syria, Pakistan, Egypt and Iraq, our highly skilled engineers work with the steel and metals industry developing technology to advance processes and techniques through innovative gas applications.

	Oxyfuel for furnaces	• Oxyg
	\vee N ₂ for blanketing	
	Oxygen for smelting operations	 Nitrog
100	Oxygen in electric arc furnace	
	Argon/Oxygen Decarbonisation (AOD)	• Argon
1	Extrusion Press; N ₂ for cooling dies	
	\checkmark Refining; H ₂ is used to reduce oxides,	• Hydro
	\checkmark O ² is used to reduce impurities	
	\checkmark H ₂ for steel heat treatment	• Gas n
	\checkmark Annealing; H ₂ prevents oxidation and	
and	improves surface brightness and quality	
	Gas mixtures for post-treatment	
	Gas mixtures for post-treatment	

Our products Benefit to you Our services Increase production rates Supply of pure and mixed gases Achieve faster melt rates
 Increase heat transfer
 Gas supply schemes on build
 Our services n operate (BOO) basis Gas supply schemes on build Reduce volume of flue gases mixed gases inder maintenance and testing · Improve quality for finished products s-obeuting, reproved the stallation · Pipeline installationssioning of gas delivery Lower fuel costs Bulk installations Technical চুদ্রন্থন্থার্ট and technical support Cylinder mainten from the strain of the stra On-site equipment maintenance Cryogenic storage tank system installation

Pure gases (Liquid and compressed)

Argon/Carbon Dioxide mixture Argon/Helium mixture Argon/Hydrogen mixture

Øxygdene

Alygdorogen

Nittorggen

Alagrobnon Dioxide

Nitrous Oxide



The customer challenge

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How we work with you

Our gases Gulf Cryo subsidiaries are ISO certified. Gases and gas mixtures are prepared under controlled conditions following strict international gas industry standards, ensuring tolerances are clearly defined. Our supply and packaging options

With 13 subsidiaries covering ten countries in the Middle East, Gulf Erve covers a vast territory offering the supply of gases and the installation of equipment. We will provide you with the best available supply package to suit your business requirements. Capac Capacity

2000 - 0251,\$1001 is est based 30 Ory-sigenpitasticirægelltætindes (Ogying gais cylinders godenic plants) on customer requirement Desygipeline connection 180 - 1006tioneised base 37

Mobile Distribution Systems (MDS) A unique system to Gulf Cryo, MDS includes one 180 litre Liquid Oxygen container, one eight cylinder Acetylene rack and two individual manifolds – one for Oxygen and one for Acetylene, with five outlets for Working pressure (barg) Working oressure (barg) mounted on a steel frame.

Purity

980.56%99.5%

99.999%

99.999%

99.999%

99.5%

95%

stomised Benefits to the customer

tomised Better quality weiding due to continuous supply

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Our engineers can also design and implement a total gas management service handdling the opstattation and anointeralges pfpæhial oetargek systiengasapelaotsse syliridgramaavent, guradaoteledgecomestef plightstatalstypgalses on toe pripelpineviolen an across the Middle East. adesttenzeltszecknelp bulk gas service.

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Compressed gases Bulk gases	Capa	city Capacity	working press (barg)		Vorking pressure Cost effective c	ompared to other options
Manifold racks Gayogelinidettsrage tanks Mitpu9d5gas cylinders (Dewars)	6 – 50 Oxyge	540 Nm ³) (2009) - 75,000 en 801 80 (000) est r lene – 40 ka		3	parg)	ations engineers to identi
Compressed gases		Capacity			Vorking pressure barg)	
Manifold racks Tube trailers		120 – 540 Nm 3500 – 5400 N		_	200 - 300 200	

Talk to our applications engineers to identify the right solution for you.



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Helping you deliver critical medical care for patients

Our geographic reach

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Our gas solutions

Applications	Our products	Our services
Anaesthesia	Liquid and compressed pure gases	 Production and supply of high quality
 Resuscitation 		medical and speciality gases
Preservation of human tissues and biological	Gas mixtures for blood gas analysers	Installation of equipment
specimens		 Maintenance of pipeline systems
Calibration and operation of analytical instruments	Gas mixtures for respiratory disorders	Maintenance of customer owned cylinders
 Freezing 		Engineered delivery system
 Oxygen therapy – breathing 	Sterilization mixtures	Traceable supply chain
Analgesia and sedation		 Secondary equipment and
 Sterilization 		accessories supply
MRI scans		Homecare services including
		home delivery



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The customer challenge

As the population gets older and more patients suffer from chronic diseases, there is a tremendous pressure on the healthcare industry to maintain and improve clinical and emergency care and home care for post-clinical patients. Hospitals, clinics and laboratories require a continuous supply of high-quality medical



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continuous medical How we work with you

Our gases

Gulf Cryo gases and gas mixtures comply with strict international requirements and standards for the manufacture and quality control of medical gases stipulated by the industry's regulatory bodies.



Our supply and packaging options

With 13 subsidiaries covering ten countries in the Middle East, Gulf Cryo covers a vast territory offering the supply of gases and the installation of equipment.

Bulk gases	Capacity	Working pressure (barg)
Cryogenic storage tanks Liquid gas cylinders and	2000 - 75,000 litres	3 – 30
Dewars	180 - 1000 litres	2-37



