

Biogas upgrading units



A complete range of modular and scalable solutions to accompany all your projects

Biogas is a renewable energy produced during anaerobic digestion. Composed entirely of methane and carbon dioxide, biogas can be efficiently converted into biomethane through purification processes.

Biomethane is an ethical energy source that can replace fossil natural gas.



Thanks to the development of several technological building blocks, including membranes for separating CO₂, our solutions enable the purification of all types of biogas so that they can be injected into a natural gas grid, used to produce vehicle fuel or liquid biomethane, and produce renewable hydrogen.

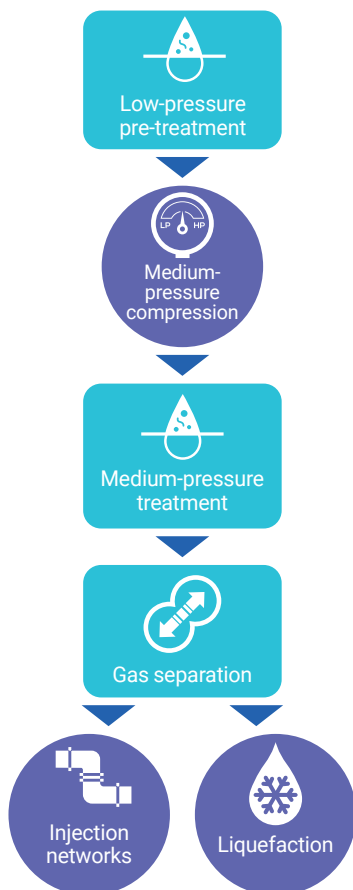
The modular systems designed and developed by Air Liquide are upgradable biogas processing plants for applications that use 300 to several thousand cubic meters per hour (300 to 10,000 Nm³/h).

Air Liquide group's recognized expertise in the field of industrial gases, as well as its experience

in biogas purification are major assets for the success of your projects. To date, Air Liquide has designed, manufactured and commissioned more than 120 biogas upgrading units and operates 25 biomethane production units worldwide.

New design of biogas upgrading unit up to 1,000 Nm³/h

Operating principle



Air Liquide is widening its line of biogas upgrading solutions with a biogas upgrader developed for projects with a capacity of up to 1,000 Nm³/h. With more than 15 years' experience, this new solution is suitable for agricultural or industrial projects producing biogas.



Key benefits

- High reliability and availability
- Low power consumption
- Low operating costs and optimized TCO
- Full range of services and maintenance
- Modular units (extension of the biogas treatment capacity)
- Simple and quick installation
- Small footprint
- Biomethane injection into the low pressure or high pressure network

Additional modules:

- Biomethane liquefiers
- CO₂ liquefiers

Related services

- Preventive and curative maintenance
- Remote maintenance
- Hotline 24/7
- Spare parts
- Operating support and expertise
- Training

Biogas upgrading units range

Raw biogas treatment capacity (Nm³/h)

200	New generation of biogas upgrading units 500 Nm ³ /h
300	
400	
500	
600	New generation of biogas upgrading units 1,000 Nm ³ /h
700	
800	
900	
1,000	High flow biogas upgrading units
1,500	
3,000	
4,000	

Our broad product range offers a solution to diverse project types, such as:

- Agricultural
- Waste water treatment
- Municipal solid wastes
- Biowastes
- Industrial & agroindustrial
- Multi feedstock

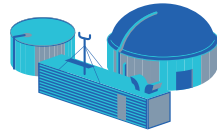
High performances:

- Methane recovery rate > 99.5%
- Electrical consumption < 0.27 to 0.31 kWh/Nm³ of biogas

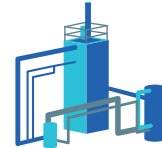




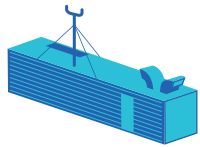
Key figures



25 biomethane production units in operation worldwide



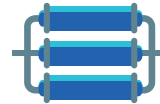
~1.7 terawatt-hour of biomethane production capacity per year



120+ biogas upgrading units designed, manufactured and installed worldwide



15+ years of experience in biogas upgrading



30+ years of experience in membrane production



100+ years of experience in gas separation

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A world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 73 countries with approximately 67,100 employees and serves more than 3.9 million customers and patients.