

# Turbo-Brayton

## for small scale methane liquefaction

The Air Liquide Turbo-Brayton cooling system is an optimal solution for biomethane liquefaction. Combining safety, performance, reliability and compactness, it can be used for liquefying biogas, natural gas or flare gas as well.

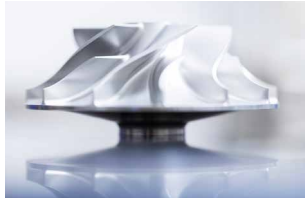


### Key benefits of the Turbo-Brayton liquefaction system

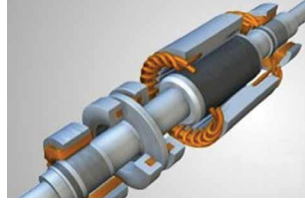
- Integrated solution with feed gas pretreatment
- No feed gas losses
- **Low installation cost and time:** plug and play, compact (low footprint and weight)
- **Maintenance-free** for 5 years
- **Unmanned operation**, fully automatic
- **Cold power available instantaneously** (less than 5 min) from stand-by mode
- **Multi-sources liquefaction:** biogas, natural gas, flare gas, ethylene, boil-off gases
- Flash and boil-off are avoided thanks to methane **subcooling**
- Utility-free: no compressor, no oil, no nitrogen
- Safe technology: inert process gas, no top-up of process gas required
- Low electrical consumption and high efficiency on all operating range from 0 to 100% turn down

# Reverse Turbo-Brayton principle

Turbo-Brayton is an innovative and patented solution.



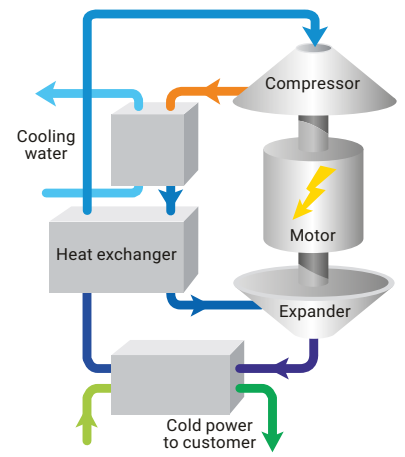
Compressor



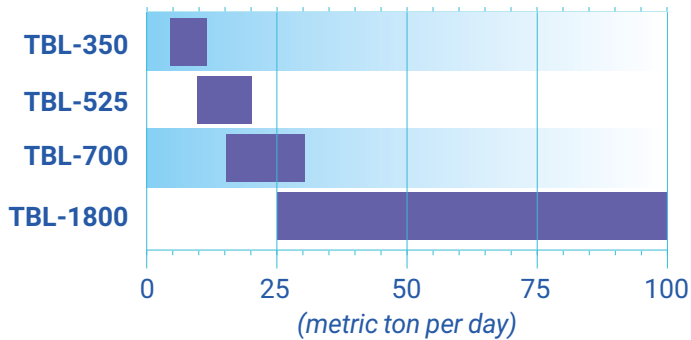
Motor on magnetic bearing  
(oil-free, contact-free & high reliability)



Expander



## Onshore Turbo-Brayton liquefaction range



## Main applications

Air Liquide Turbo-Brayton is used on the following onshore and offshore applications:

- Bio-LNG liquefaction
- Natural gas liquefaction and virtual pipeline
- Ethylene subcooling
- LNG boil-off gas management
- High-temperature superconductivity



Turbo-Brayton TBL-350



Turbo-Brayton TBL-525

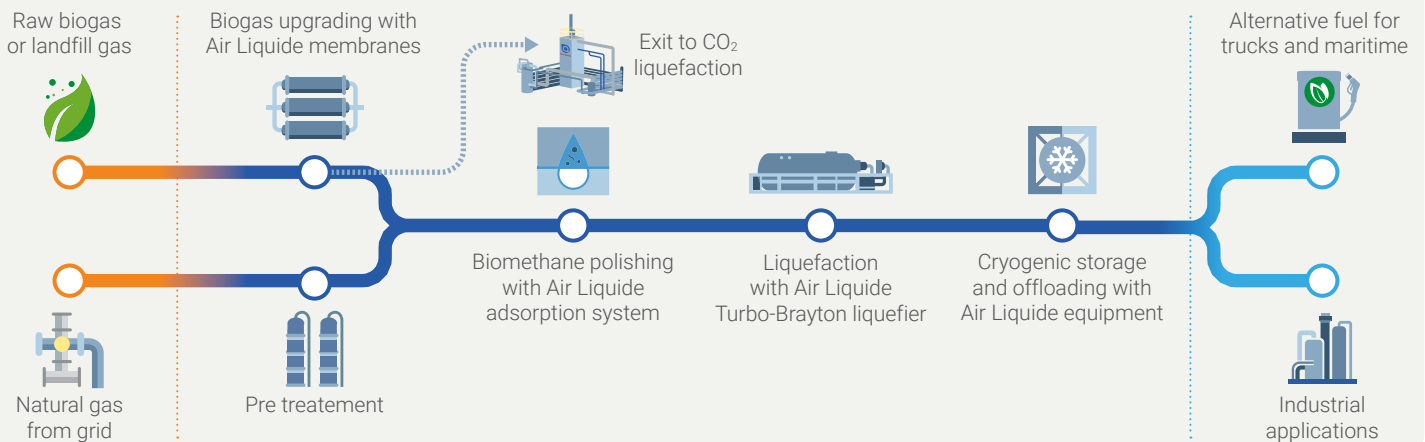


Turbo-Brayton TBL-700



Turbo-Brayton TBL-1800

## Air Liquide fully integrated solution



## Contacts

**Air Liquide**  
Advanced Technologies

2, rue de Clémencière  
BP 15 - 38360 Sassenage, France  
Phone: +33 7 89 28 13 77  
E-mail: [gcom.alat@airliquide.com](mailto:gcom.alat@airliquide.com)  
[www.advancedtech.airliquide.com](http://www.advancedtech.airliquide.com)

[www.airliquide.com](http://www.airliquide.com)



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