

FABRUM.

LIQUEFACTION GAS UNIT
LIQUID NITROGEN

AIR TO LIQUID NITROGEN FOR ONSITE PRODUCTION



● APPLICATIONS

Cryogenic process cooling
Liquid nitrogen dosing
Cryogenic freezing of products

● INDUSTRIES

Food and beverage
Research
Superconductivity
Animal breeding
Life science
Specialist manufacturing

● KEY BENEFITS

Surety through onsite production
Reliable and efficient
Easy to operate
Minimal maintenance
Measurable return on investment
Key technology enabler

A liquefaction gas unit [LGU] produces liquid nitrogen using a patented technology to cool nitrogen gas to a temperature so low that it becomes liquid.

Surety of supply of liquid nitrogen is essential to numerous applications where cold is mission critical.

Fabrum LGUs require very low maintenance and have proven ability to operate in harsh environments with NO degradation of liquid production over the life of the unit.

LGUs can be containerised into a CryoCube unit

The patented* FABRUM CRYOCOOLER in conjunction with an appropriately sized gas production system delivers these attributes:

Minimal set up requirements: integrated solution for onsite production

Scalable and modular: sizing of gas system and complete liquid solution can be optimised to match customer requirements from 100 litres per day to > 2000 litres per day

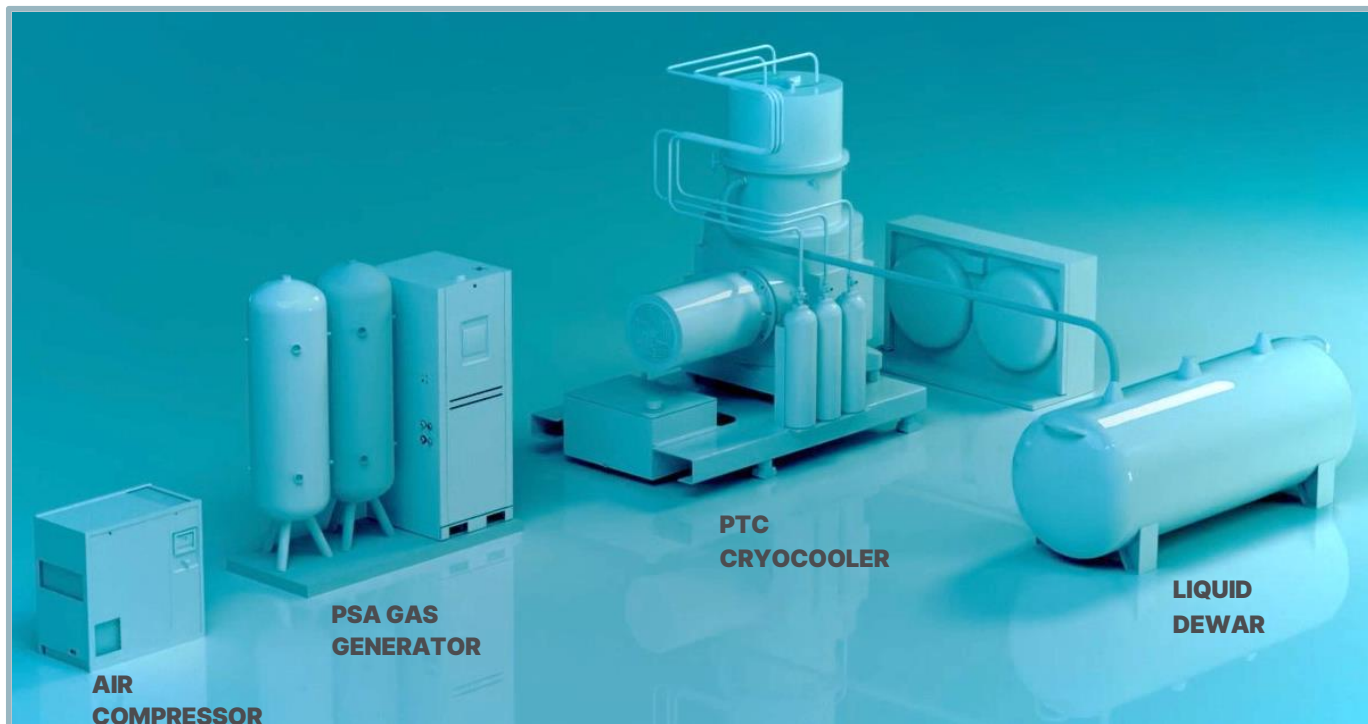
Efficient, cost effective, reliable, continuous running

Low maintenance: cryocooler servicing at 40,000 hours provides uninterrupted supply

Well-suited for use in remote locations utilising internet connectivity

* Patented cryocooler uses dual diaphragm pressure wave generator to deliver rugged, low maintenance and efficient cryocooling.

Long life diaphragm separates the cryogenic cold head from the wave generator: ensures a clean cryogenic system without contamination.



PRODUCT SPECIFICATIONS

	LGU 330-N	LGU 1000-N
Cryocooler	PTC 330	PTC 1000
Liquefaction rate [†] [L/h]	6.5 (150 L/Day)	25 (600 L/Day)
Nominal dewar capacity [L]	300	1000
Operating power ^{††} [kW]	21	50
Nominal operating current [A]	37	83
Suggested circuit breaker [A]	63	125
Weight [kg]	2000	3000
Nominal layout dimensions LxWxH [m]	3.0 × 2.4 × 2.6	6.0 × 2.4 × 2.9

	LGU 1000-2 N
Cryocooler	PTC 1000 × 2
Liquefaction rate [†] [L/h]	50 (1200 L/Day)
Nominal dewar capacity [L]	2000
Operating power ^{††} [kW]	97
Nominal operating current [A]	160
Suggested circuit breaker [A]	200
Weight [kg]	6000
Nominal layout dimensions LxWxH [m]	3.0 × 5.0 × 2.6



[†] The liquefaction rate is nominal and dependent upon operating conditions such as storage pressure, ambient temperature and elevation. The available liquid at atmospheric pressure may be lower. Please contact Fabrum to discuss.

^{††} Operating power is based on measured values assuming 99.5% nitrogen purity, and includes the air cooler configuration. Fabrum LGUs do not usually require an additional water chiller in ambient temperatures below 35 °Deg C

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● APPLICATIONS

Process cooling of semen and embryos
Storage of frozen semen and embryos
Insemination of semen and embryos

● INDUSTRIES

Animal breeding
Human Medical Research
Life science

● KEY FEATURES

Automated start and restart
No defrosting or purging is required
Automatic freezer integration
Easy to operate and dispense
Minimal maintenance
Measurable return on investment

A Fabrum LGU produces liquid nitrogen using a patented technology to cool nitrogen gas to a temperature so low that it becomes liquid.

The surety of liquid nitrogen supply is essential to numerous applications where cold is mission critical.

LGUs deliver a 5 – 8 minute cold start functionality to achieve full production capability. (After initial system cooldown)

In addition to the production of liquid nitrogen, Fabrum has developed international partnerships for the provision of:

- Bulk liquid storage dewars 300L – 2000L scalable to meet customer specific requirements
- Biological liquid nitrogen cryostorage freezers with a capacity of up to 600,000+ straws (0.5cc) or 1,337,000+ straws (0.25cc)
- Field transportable liquid cans 1L – 50L



FABRUM.

Mission Critical Solutions. Providing world leading solutions in engineering and cryogenic technology.



Quality
ISO 9001



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