

Liquid Nitrogen Plant



- Produces LN₂ directly from the air using advanced membrane technology
- Operates 24 hours a day, 7 days a week reliably, automatically and safely
- Installation and start up in less than two (2) hours
- Less expensive than the competition
- Air cooled up to 100° F (38° C); Water cooled systems are also available
- Automatically enters into standby mode when the production dewar is full
- Liquid level observable at all times
- Designed with a storage capacity for 3 days production
- Rugged, stainless steel LN₂ dewar
- Cryogenically insulated extraction line and valve for low loss LN₂ transfer
- Do it yourself-easy maintenance
- Tools, spare parts and manual included
- With the air compressor, all you need is electricity to produce LN₂

The LNPs have operated reliably at some of the most demanding sites possible on earth. It will work in yours.

Description

Cryomech, Inc. manufactures reliable, fully automatic 10 and 40 liter per day Liquid Nitrogen Plants (LNP's). The LNPs require only electrical power and compressed air to produce LN₂. A nitrogen generator separates nitrogen from the other components of the air, without any moving parts. The 98% pure nitrogen flows into a 35 or 160 liter dewar, where it is liquefied at the cold end of either our AL60 or AL200 Cryorefrigerator. The liquid level in the dewar is automatically controlled and observable at all times to the operator. The LN₂ is easily transferred from the dewar using the low loss, vacuum insulated extraction valve and line conveniently located on the dewar. The LNPs have been designed for ease of operation and do not require a full-time, trained operator.

Cryomech, Inc. extends a warranty on all parts and workmanship for three years or 8,000 hours, whichever comes first, after satisfactory installation, provided the owner (operator) operates the equipment according to the specifications and operating procedures set forth by Cryomech.

**LNP-10 10 liters/Day
Specifications**

Standard Purity..... 98%

Dimensions:

Dewar assemblyDia. 18¼ in. (46 cm.)
 Height: 35¼" in. (90 cm.)
 Helium compressor (l x w x h)..... 26 x 17 x 22 in.
 66 x 43 x 56 cm.

Power Requirements:

..... 2 kW @ 208/230 V, 1 phase, 60 Hz
 200 V, 1 phase, 50 Hz

Weight:

Dewar assembly88 lbs. (40 kg.)
 Helium compressor 125 lbs. (56.7 kg.)

Ambient temperature range:

.....40°F to 100°F(4.5°C to 38°C)

Compressed air requirement:

..... 1.0 CFM at 120 PSIG (30 l/m at 9 bar A)
 Air compressor supplied by Cryomech upon request.

**LNP-40 40 liters/day
Specifications**

Standard Purity..... 98%

Dimensions:

Dewar assembly (dia. x height)..... 24 x 59 in.
61 x 150 cm.
 Helium compressor (l x w x h)..... 36 x 31.5 x 26 in.
 91 x 80 x 66 cm.

Power Requirements:

..... 5.5 kW @ 208/230 or 460 V, 3 phase, 60 Hz
 200/220 or 380/400 V, 3 phase, 50 Hz

Weight:

Dewar assembly 250 lbs. (113 kg.)
 Helium compressor 425 lbs. (192 kg.)

Ambient temperature range:

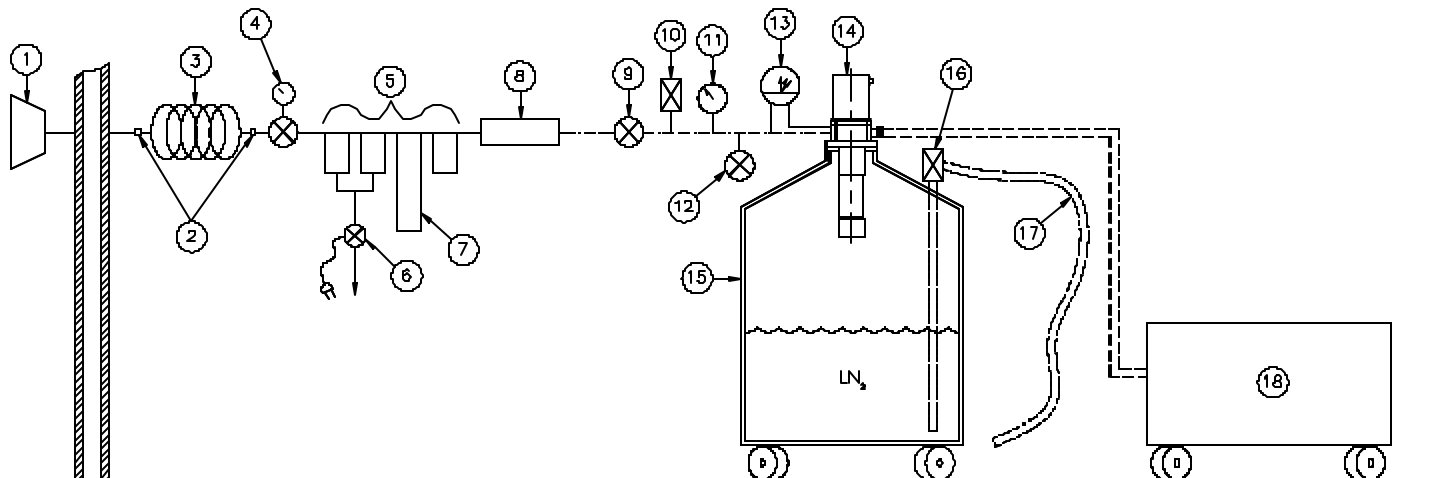
.....40°F to 100°F(4.5°C to 38°C)

Compressed air requirement:

..... 3.5 CFM at 80 PSIG (100 l/m at 7 bar A)
 Air compressor supplied by Cryomech upon request.

Modifications for higher purity levels and high humidity installations are available by special request.

LNP-40 Diagram



COMPRESSED AIR

NITROGEN

LIQUID NITROGEN

HELIUM

- | | | |
|---|-----------------------------------|-------------------------------------|
| 1. Air Compressor (ordered separately from the LNP) | 7. Charcoal Adsorber (air filter) | 13. Liquid Level Indicator/Switch |
| 2. Compression Fitting | 8. Nitrogen Generator | 14. AL Series Cryorefrigerator |
| 3. Copper Tubing | 9. Nitrogen Regulator | 15. Dewar |
| 4. Compressed Air Regulator | 10. Dewar Pressure Relief Valve | 16. Cryogenic Extraction Valve |
| 5. Compressed Air Filter Bank | 11. Dewar Pressure Gauge | 17. Vacuum Jacketed Extraction Line |
| 6. Automatic Drain Valve | 12. Safety Burst Disc | 18. Helium Compressor Package |