

CRYOMECH

Liquid Nitrogen Plant Specification Sheet

LNP10

Liquid nitrogen production rate* ≥ 10 liter/day (0.4 liter/hour); 2.6 gal/day (0.11 gal/hour)
*reduced production rate on 50Hz

Dewar assembly

Capacity 35 liters (9 gal)
Weight:
Empty 105 lb (48 kg)
Full 167 lb (76 kg)
Dimensions (OD x H) 18.25 x 32 in (46 x 81 cm)

Cold head model

AL60, mounted on Dewar

Helium compressor model

CP820, available as air or water cooled

Air cooled:

Weight 144 lb (65 kg)
Dimensions (L x W x H) 19 x 22 x 22 in (48 x 56 x 56 cm)
Electrical rating 208/230VAC, 1Ph, 60Hz // 200VAC, 1Ph, 50Hz
Power consumption 2.2 kW // 1.9 kW

Water cooled:

Weight 135 lb (61 kg)
Dimensions (L x W x H) 18 x 18 x 22 in (46 x 46 x 56 cm)
Electrical rating 208/230VAC, 1Ph, 60Hz // 200VAC, 1Ph, 50Hz
Power consumption 2.0 kW // 1.7 kW
Cooling water flow rate Minimum flow 0.75 GPM (2.8 LPM) @ 80°F (27°C) maximum temperature

Helium flexible lines

Standard length 10 ft (3 m)
Weight per pair 6.4 lb (2.9 kg)

Nitrogen generator assembly

Nitrogen purity 98%
Weight 59 lb (27 kg)
Dimensions (L x W x H) 42 x 7 x 29 in (107 x 18 x 74 cm)
Nitrogen Gas Flow Rate 0.19 SCFM at 7 PSIG (5.4 LPM at 0.5 bar)

System parameters

Helium pressure 200 \pm 5 PSIG (13.8 \pm .34 bar) @ 60 Hz
200 \pm 5 PSIG (13.8 \pm .34 bar) @ 50 Hz
Ambient temperature range 45°F to 100°F (7°C to 38°C)
Maximum altitude (standard LNP) 10,000 ft (3000 m)

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Compressed air requirement

Dew point 35°F (2°C)
Flow rate 1.7 ACFM at 85 PSIG (48 ALPM at 6 bar) FAD**
**FAD (free air delivery) measures the compressor's output while operating at a specific pressure. The result, expressed in actual cubic feet per minute (ACFM), rates the outlet flow based on the inlet conditions.

Maximum sound level

Air cooled 76 dBA @ 1 meter
Water cooled 70 dBA @ 1 meter

Minimum footprint requirement

Air cooled helium compressor 7 x 2.5 ft (2.1 m x 0.8 m)
Water cooled helium compressor 4.5 x 3 ft (1.4 m x 0.9 m)

Shipping weight and dimensions

Crate 1(Cold head, Dewar, CP820):
Weight 460 lb (208.7 kg)
Dimensions (L x W x H) 48 x 40 x 59 in (122 x 102 x 150 cm)

Crate 2(Optional Air Compressor):
Weight 415 lb (188.2 kg)
Dimensions (L x W x H) 47 x 27 x 54 in (119 x 69 x 137 cm)

Optional Equipment

Air compressor

Flow rate 4.8 ACFM at 100 PSIG (136 ALPM at 6.9 bar) FAD
Weight 249 lb (113 kg)
Dimensions (L x W x H) 43 x 22 x 39 in (109 x 56 x 99 cm)
Duty cycle 1/3
Horsepower 2
Electrical rating 208/230VAC, 1Ph, 60Hz; 200VAC, 1Ph, 50Hz
Sound level 72 dBA @ 1meter

Refrigerated air dryer

Nominal capacity 10 SCFM (283 SLPM)
Weight 42 lb (19 kg)
Dimensions (L x W x H) 18 x 8 x 18 in (46 x 20 x 46 cm)
Power consumption 0.2 kW
Electrical rating 115VAC, 1Ph, 60Hz; 230VAC, 1Ph, 50Hz