



**MMR Technologies, Inc.**

## **ELAN2 LIQUID NITROGEN GENERATOR FREQUENTLY ASKED QUESTIONS**

### **What does the elan2 system do?**

The elan2 liquid nitrogen generator generates liquid nitrogen from the air, at a rate of up to 4.5 liters per 24 hour period. The air we breathe is approximately 78% nitrogen gas – it makes sense to use that as an inexpensive source.

Once the air is brought into the elan2, the air is compressed to remove water vapor and other contaminants. The nitrogen is then filtered from the remaining air, and the oxygen and other gases are returned to the room. The nitrogen is then liquefied, and transferred to the internal storage container, ready to deliver on-demand when needed.

### **What is the difference between the Office Generator and the Autotransfer system?**

The Office Generator has an internal reservoir that can hold 0.75 liters of liquid nitrogen. Once this tank is full, the system goes into a standby mode until some or all of the liquid nitrogen has been used. At this point, the elan2 will power up and start production again. It will take just over 5 hours to fill the internal reservoir.

The Autotransfer system produces liquid nitrogen at the rate of up to 4.5 liters every 24 hours, but continuously transfers this to a large external 20 liter tank. It takes approximately 4.5 days to fill this tank. When you need larger volumes of liquid nitrogen at a time, this is the ideal set up – you can take what you need from the larger tank, and then continue production.

### **How quickly does the elan2 generate liquid nitrogen?**

The elan2 systems can generate liquid nitrogen as much as 4.5 liters of liquid nitrogen every 24 hour period (this equates to between 2 and 4 CryAcs every 4 hours, depending on the size).

### **What is the warranty on the instrument?**

This instrument has a one year warranty. If you would like information on our standard warranty terms, please contact us, and we would be happy to provide you with this agreement. Extended warranty plans are available.

### **What maintenance is required?**

The elan2 has a self cleaning cycle that it undergoes once a week, in the middle of the weekend. This will not affect your ability to get liquid nitrogen as you need it.

In times when humidity or temperature go outside of the recommended operating environment for extended periods of time, or if the system has had to shut down or be unplugged due to electrical storms, etc – an override cleaning cycle may need to be done. This takes approximately an hour but is readily activated by turning a knob at the rear of the instrument.



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**How large is the elan2?**

The elan2 Office Liquid Nitrogen Generate is composed of two parts: the Generator and the Air Compressor.

- Compressor: 7.5” wide x 17.5” deep x 15” high  
(45 cm wide x 45 cm deep x 38 cm high)
- Generator: 13” wide x 13” deep x 37” high  
(33 cm wide x 33 cm deep x 94 cm high)

The generator can easily sit on top of the compressor, making the footprint for the system smaller.

- 17.5” wide x 17.5” deep x 52” high  
(45 cm wide x 45 cm deep x 132 cm high)

The elan2 Liquid Nitrogen System with Autotransfer is also composed of two parts: The Generator with Autotransfer and the Air Compressor.

- Compressor: 17.5” wide x 17.5” deep x 15” high  
(45 cm wide x 45 cm deep x 38 cm high)
- Generator with Autotransfer: 14.5” wide x 35” deep x 37” high  
(37 cm wide x 89 cm deep x 94 cm high)

The compressor can be located anywhere within a 15 foot (4.5 meter) distance of the Generator with Autotransfer.

**What do I need to operate the elan2?**

You need two things to operate the elan2:

1. Standard electricity from a wall outlet: 2 outlets  

Note: It is recommended this is not on the same circuit as other heavy equipment like lasers, sanitizers, autoclaves, refrigerators, freezers, space heaters, etc. The ideal situation is a direct line dropped directly from the electrical box.
2. Good airflow in the room the elan2 is installed.  

Note: These may not be installed in a small closer or storage room where there is not good air flow. The elan2 uses the nitrogen from the air to produce liquid nitrogen. An inadequate air supply, like that found in a small closet, could result in damage to the instrument, not covered under warranty.
3. The room the elan2 is in must meet the following requirements:
  - a. Room temperature may not exceed 25 C (77 F). If the temperature exceeds this for any length of time, the production rate of the instrument will decrease. Long term operation at temperature exceeding 30 C (90 F) will result in damage to the instrument that is not covered under warranty. The cooler the room is, the better the production rates will be.



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- b. The room should be free of dust and exhaust from other instrumentation.
- c. The room should be free of volatile organic compounds or the storage of cleaning products.
- d. The room should be of low humidity (less than 40%).

There are detailed facility requirement documents with further information available from the website ([www.elan-2.com](http://www.elan-2.com)) or by contacting MMR Technologies (650-962-9620 or by email at [elan2sales@mmr.com](mailto:elan2sales@mmr.com)).

### **How is this system safer than the liquid nitrogen I have delivered?**

There are three tiers of safety built into the elan2 liquid nitrogen generator, for the safety of you and your staff:

1. Liquid nitrogen is available only when you push a button. There is no automatic delivery of this to your container. The liquid nitrogen will only dispense as long as you hold the button down.
2. The system has a key – if the key is not placed in the system and turned to the on position, no liquid nitrogen will be transferred, even if you push the button. This allows you to control who has access.
3. Liquid nitrogen cannot be dispensed unless there is an RFID tagged container placed below the delivery spout. This tag will unlock the dispensing mechanism and enable transfer. This way there is no possibility of accidentally pressing the button and letting the liquid nitrogen dispense with no container present.

### **How is this liquid nitrogen different from the liquid nitrogen I have delivered?**

The liquid nitrogen you have delivered is approximately 98% pure, but it frequently has additional particulate matter and water that are picked up when it is transferred several times between where it is generated and delivery to your office.

The liquid nitrogen from the elan2 is 98% pure, and you are in control of the nitrogen from the time it is generated – ensuring minimal water or contamination between the time you get what you need and use it.

### **What is the cost per liter of liquid nitrogen generated?**

The cost of operating the elan2 varies based on the cost of electricity, but an average estimate is between \$26 and \$43 per month in electricity – approximately the same as a refrigerator.

### **How noisy is the elan2 Liquid Nitrogen Generator?**

The elan2 system has an air compressor as part of the instrument. This means there is a constant level of noise from the system. It is not recommended that this instrument be placed in an office or next to where people are on the telephone routinely as it may be distracting. It is difficult to give an absolute description of the noise as it largely depends on the acoustics of the room in which it is installed – but an approximation would be a little louder than an older window air conditioning unit.



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**Who uses these systems?**

These liquid nitrogen generators are found in dermatology offices, government and military medical centers, research facilities, and scientific laboratories.

**Where are these systems being sold?**

Currently, these systems are available for sale in Japan and throughout the United States and Canada. If you are from somewhere outside of these areas, please feel free to contact us to be placed on a list to be notified when we can sell to your area.

**IF THERE IS FURTHER INFORMATION YOU WOULD LIKE, PLEASE CONTACT MMR TECHNOLOGIES BY PHONE (650-962-9620), FAX (650-962-9647) OR EMAIL (ELAN2SALES@MMR.COM).**