

# Mobile flash freeze unit FAQs

Vermont Agency of Agriculture

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These questions were generated during open houses held June 8 & 11, 2015. We have answered these questions to the best of our ability given the information available to us at this time. Please direct further questions to Kristina Sweet at [kristina.sweet@state.vt.us](mailto:kristina.sweet@state.vt.us) or (802) 522-7811.

## 1. Definition of IQF and flash freeze

Individual quick freeze (IQF) or flash freezing, in the culinary arts, refers to the process whereby food items are quickly frozen by subjecting them to cryogenic temperatures, or direct contact with liquid nitrogen at -196°C. This particular unit uses cryogenic temperatures to freeze food items separately from one another, rather than forming a solid frozen block on the tray in the package.

## 2. Do you anticipate starting up the unit before it is transferred?

No, we are transferring the unit to an eligible entity "as is." It was in good working order, cleaned, sanitized, and prepared for winter before it was returned to VAAFAM in December 2012.

## 3. How many compressors does the unit have?

Two: one compressor is for the AC and another for the freezer.

## 4. What is the life expectancy of the unit?

We are unsure. The unit was built in 2009 and routinely used through 2012, until it was returned to VAAFAM in December 2012. The unit has not been operated since. The unit's freezer compressor was replaced in November 2012 before it was returned to VAAFAM.

## 5. How much does the unit weigh?

The unit weighs 3,740 lbs., according to its DMV registration.

## 6. Update on product specifications

The unit does not appear to have any drying trays; it does include 24 sheet pans for freezing product and 6 rolling racks (commonly known as "speed racks").

## 7. Since the unit requires prep and storage infrastructure to be fully operational, what do you see as the unit's value to a farm?

The unit is a flash freezing unit with limited (800#) storage capacity. Product preparation, including washing, blanching, or cutting, is required before entering the MQF unit assembly. After product is frozen and packaged, it will likely need access to longer term freezer capacity. A producer may have a market for a value-added product or have excess volume to preserve as packaged frozen product and want to utilize this unit's capabilities. An eligible entity would work with an individual or

multiple farmers to help process frozen products to be sold directly to consumers, via institutional and wholesale markets, or for donation into the charitable food community.

**8. What are the unit's estimated annual operational costs?**

Electrical costs will vary based on how many hours per day the unit is in operation per year. The freezer unit draws approximately 20+/- A during operation at 235V. Thus, the unit will consume an estimated 4.7 kWh of energy per hour of operation.<sup>1</sup> At a cost of \$0.15/kWh, this equates to \$0.70/hour of operation. If the facility where the trailer ends up is subject to demand charges, then this estimate will increase. (Estimates provided by Efficiency Vermont, <https://www.encyvermont.com/>.)

As with electrical costs, the unit's annual operational costs will vary based on how it is used, how often it is used, and how often it travels. Consider costs for personnel, repairs/renovations, trailer hauling, mileage reimbursement, Department of Motor Vehicles fees, and supplies. Supply needs may include items such as cleaning supplies, processing supplies, linen service, floor mats, storage shelving, vacuum sealer(s), and packaging.

**9. Would VAAFm consider an applicant that wants to disassemble the unit for its pieces and parts?**

It would be an acceptable strategy but not likely looked upon as favorably as applications that take advantage of the mobile capacity and/or unit's entire infrastructure.

**10. Could the unit be used as a cold storage space?**

The air conditioned space (approx. 96 square feet) in the unit (not including the freezer) could be maintained at a temperature appropriate for cold storage. However, the space can be maintained at one temperature and humidity only.

**11. What is the longevity of the agreement and reporting obligation with USDA-Rural Development?**

The reporting continues throughout the life of the equipment. Yearly for first three years—then every three years.

**12. How large is the freezer compartment?**

The freezer compartment is approx. 7.75 feet long by 4 feet wide by 6.5 feet tall.

**13. What is the insulation value of the unit?**

We are still investigating this question and hope to have an answer soon.

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<sup>1</sup> 20A x 235V = 4700 watts, and 4700 watts / 1000 = 4.7 kilowatts.