

Frost Gelato gets Hot..

How a great concept and hard work pays off



Jeff Kaiserman & Stephen Ochoa

Tucson AZ: It was a hot summer day in Rome when Jeff Kaiserman and Stephen Ochoa - today's co owners of Frost Gelato- could only find warm bottled water in that ancient city. After searching for something cold, they stumbled upon a Gelateria. It was then that they tasted the cool, creamy, and refreshing treat. "Is this ice cream," they asked? "This is the world's finest ice cream, it is called gelato," replied the attendant with a smile on his face. Little they knew that the word "gelato" would become such a big part of their lives. After leaving the Gelateria, they could not wait to stumble upon gelato again. As their travels lead them through different towns in Italy , they made sure they were always greeted with the finest gelato each town had to offer. Unable to control their cravings, they would sneak out at night just to have another taste.



Upon returning to the states, they could not

stop thinking about the cool taste and flavor of gelato. Looking to satisfy their cravings, they tried every American ice cream on the market. Nothing seemed to come close to gelato. As the search continued, it seemed that the only option would be to take another trip to Italy.

Finally, they began to research companies that offered ingredients to make gelato. While doing so, they were able to locate a company that imports the ingredients directly from Italy to make authentic gelato. Due to pure curiosity, they set up an appointment to tour their facility, see what they had to offer, and enroll in their Gelato University . After many hours anxiously studying and learning, it was time to make their first batch of gelato. Upon the first taste, they were transported back to Italy . Finally, that overwhelming desire for the gelato was satisfied.

After three days of making and creating authentic Italian gelato, they realized that this was a secret that they need to share.

After months of planning, the first Frost Gelato was opened in the summer of 2005, introducing the finest authentic Italian gelatos and sorbets to the Tucson community in Arizona.

Making it BIG – The launching of the Frost Gelato franchise.



After receiving hundreds of requests from people all over the country that have been to their stores to bring Frost to their community. Jeff and Stephen decided to implement a new franchise operation concept with potential franchisees in response to this demand.

Their love for desserts and a trip to Italy transformed a dream into the premier Gelato Shop in the U.S., according to the world's largest Italian Manufacturer of the raw ingredients used for producing their Gelato and Sorbet flavors who supplies gelato operations in over 600 locations nationwide. Frost Gelato popularity in Tucson, Arizona, is exemplified by being voted the “Best Ice Cream/Gelato Shop” for five years in a row. Frost Gelato is nationally recognized all over the country from people that visit Tucson and have made Frost a must stop to enjoy gelato and sorbets.

Finally the passion and dedication that is the foundation of the Frost family will be shared with each franchisee. They will assist them in all aspects of bringing Frost to their community. Their Development Team, Master Gelato Chef and Owners will assist in making delicious gelato, finding a location, designing and building out new stores, training staff on-site in one of their company-owned locations and providing the new franchisee with all the tools that have made Frost Gelato an unparalleled success.

Cancel the trip to Italy and come into Frost to sample the finest Italian gelatos and sorbets.

NRA May 21- 24 Come see us at the

Chicago, IL - Booth # 3047

Clabo North America will be showing a sample of the new La Rossa Gelato case and The new Ventura XP with modular counters.



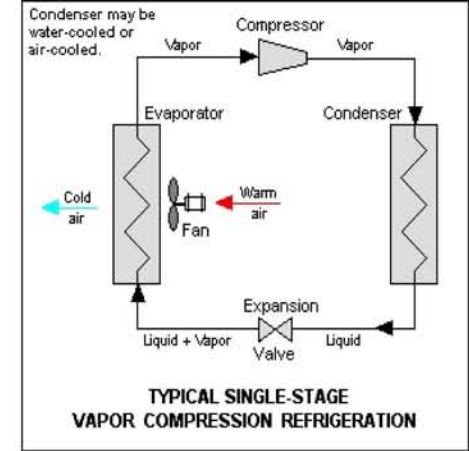
May 22-24, 2011
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<http://show.restaurant.org>

New refrigeration technology poised to heat up the market

By Joanna R. Turpin

A new industrial refrigeration system promises to save energy, reduce costs and emissions, and provide 40% more refrigeration than traditional systems. Sounds almost too good to be true.



Engineers have often complained that too little emphasis is placed on the "r" in "hvacr." In fact, refrigeration often seems to take a back seat to its seemingly more glamorous relative, comfort cooling. But along with the Department of Energy (DOE), one company is working hard to improve that perception. Energy Concepts (Annapolis, MD) has developed an absorption-augmented system, which it says achieves more cooling capacity with a substantial reduction in energy consumption and greenhouse gas emissions for industrial refrigeration.

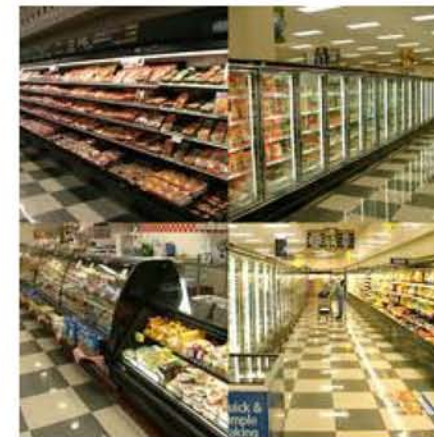
The company is not your typical manufacturer. Specializing in heat-activated absorption technology, Energy Concepts has been around for over 20 years, primarily doing research and development work for the government and some for private industry. President Don Erickson says that when a development is successful, the company will carry it through the field demonstration stage. "We don't envision ourselves as major manufacturers," says Erickson. "We are kind of the manufacturer of last resort -- we're basically R&D people."

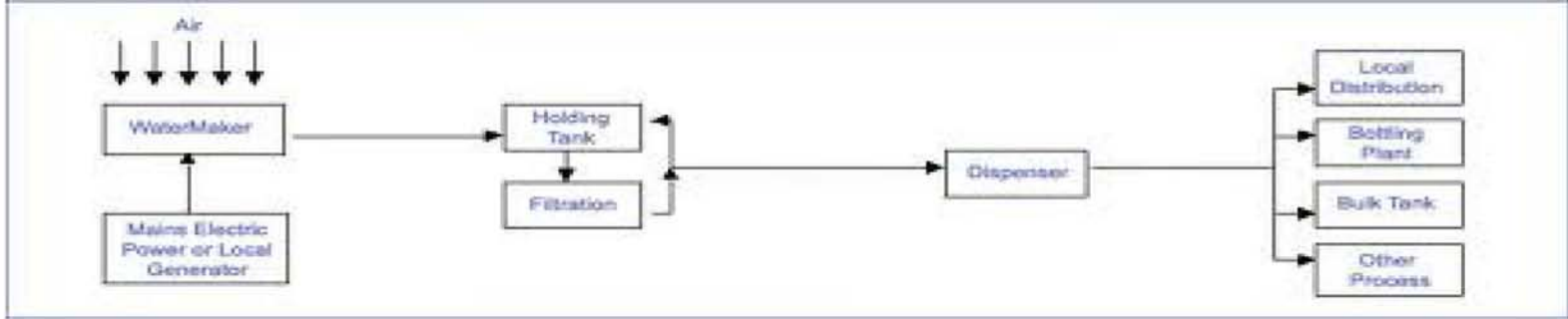
Erickson says the company's main interest in improving industrial refrigeration systems is to reduce global energy consumption and global emissions. "We'd like to be good stewards of the planet. We're interested in this type of technology, because [refrigeration] doesn't get the development attention it deserves."

• HOW IT WORKS

The new absorption-augmented system has actually been in the works for about four years. The system is based on another development called the GAX (generator absorber heat exchange) cycle. These heat-activated absorption cycles excel at using low-temperature waste heat and turning it into refrigeration or air conditioning.

In the absorption-augmented refrigeration system, the prime mover is a gas-fired engine. Gas-fired engines are quite efficient at using high-temperature heat; however, they leave a lot of their energy -- approximately 65% or 70% -- behind as low-temperature waste heat, which is ideal for absorption. The total system combines an internal combustion engine with a mechanical compression refrigeration system powered by the engine shaft power and the waste-heat driven absorption refrigeration system. Erickson says they've made the cycle more efficient by incorporating some internal heat recuperation within the absorption cycle.





"We're bringing the cost down by applying advanced heat and mass transfer technology to the heat and mass exchanges inside the cycle. This is the most efficient and cost-effective thing you can do with low-temperature waste heat. Say around 600[degrees]F or below, we can do at least half again more benefit at lower cost than just about any other technology out there."

The company faced some technical challenges when designing the system. Specifically, this particular ammonia-water absorption system has an extreme resistance to heat and mass transfer if conventional heat exchangers are used. So, the company had to develop new, patented techniques for heat and mass exchange to boost performance while keeping the cost down.

And, of course, there are always those who resist using ammonia, due to concerns over increased safety regulations and potential problems. However, this system contains a relatively low 200 to 300 lbs of ammonia, so the concern isn't as great as for those facilities with high inventories of ammonia.

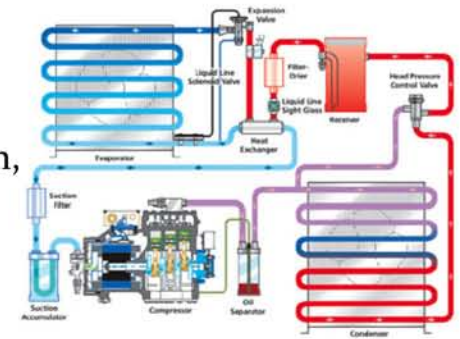
Energy Concepts estimates that the new system will cut fuel consumption by 30%, and that by the year 2010, the new system could cut total fuel consumption by 19 trillion Btu and greenhouse gas emissions by more than 1 million tons per year.

HIGHER COSTS OFFSET BY SAVINGS

As with any new technology, there may be a cost premium involved,- depending on the application. Erickson notes that the lower you go in temperature, the more cost competitive the new technology becomes. At very deep levels of refrigeration, say-40[degrees]F for blast freezing, the cost of the new technology is on par with electric compression refrigeration. The technology suffers a cost premium, however, as the temperature moves up.

- "We find as long as you're looking at average electric rates or above average electric rates, we can still supply about a two-year payback for that cost premium," says Erickson. "And, of course, the operating cost is essentially zero for our technology, versus high cost for the conventional technology."
- Even if companies aren't interested in being "good stewards of the planet," the calculations show the system will be a big money saver. In fact, Erickson says they were surprised at just how much more refrigeration can be achieved at a much lower cost. "There have been previous attempts to do what we're doing using engine waste heat to run absorption systems, and typically people have gotten maybe 15% more benefit. What we found is that they just weren't doing it right. We were pleased to see that as much as 40% could be achieved, because that's what gets people's attention."

In addition, the new system is easy to maintain because it doesn't have a compressor, which is usually the single largest maintenance component of the industrial refrigeration system. While the new technology is initially targeted toward any and all industrial refrigeration applications, including food production, blast freezing, and storage, Erickson sees other applications for the absorption-augmented refrigeration system as well. In fact, he's eyeing the air conditioning market. "There are already engine-driven air conditioning units, and we can supply the same 40% boost in efficiency to them as to the refrigeration side."



However, on the air conditioning side, the equipment would be much more expensive because conventional electric air conditioning technology has been developed extensively, and the cost is incredibly low. Almost anything that would be advanced as an alternative is going to be more costly, especially at initial low levels of production. This is why Energy Concepts has targeted refrigeration, because the levels of production are inherently much lower, and they aren't competing against the low initial cost structure.

FIRST SYSTEM TO BE UP AND RUNNING SOON

The first absorption-augmented system is slated to be installed in a Newark cold storage facility later this year. The proposed facility already has several engine-driven refrigeration systems, and they're about to expand the operation to more than double its current size. Five new engine-driven systems will be installed, and the absorption-augmented system will tap into the waste heat from those engines.

The system will provide about 100 tons of refrigeration.

The equipment will be a permanent part of the facility, with the facility paying a cost share and DOE picking up all of the development and risk expense. Erickson says they plan to closely monitor the system for the first few months and then just periodically thereafter. They expect the results will mirror those they've found at their own facility, as well as others that are using a similar technology. Six years ago, Energy Concepts installed a waste-heat-powered refrigeration system in Alaska as more of a prototype. The 12-ton system is only run six weeks each summer during salmon fishing season. The high cost of electricity in Alaska made this type of system especially appealing, and Erickson says the system has been giving excellent results. The same is true for another waste heat refrigeration system installed in an oil refinery, which has been working well for two years.

While the technology may not yet be mass produced, Erickson says that they're ready to tackle any large scale systems on a project-by-project basis. Mid-capacity units, in the range of 50 to 100 tons, will be available in one to two years, while small capacity units, maybe 25 tons and smaller, won't be available for another three years or so. But before engineers even think about using the technology in a new application, Erickson says they're going to have to do some studying. "There's very limited knowledge of absorption in the refrigeration community anymore. Engineers have to be cognizant of state-of-the-art absorption technology, and there are only a few dozen places in the world where that knowledge currently exists."

He adds that the standard engineering firm will not have the expertise resident at the present time in order to specify the new system. Once that knowledge is re-established -- or gained initially -- Erickson doesn't believe engineers will have a problem specifying and designing the absorption-augmented system. "Engineers can review the patents on the technology, and we're delighted to talk with people about it."

- Bibliography for: "New refrigeration technology poised to heat up the market"
- Joanna R. Turpin "[New refrigeration technology poised to heat up the market](#)". Engineered Systems.

