

Cool It!

Published by



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EXTENDICARE CANADA

Walk-In Evaporator Coils 101

General Information

When choosing a walk-in evaporator coil, there are several considerations to keep in mind. Coils come in different styles, sizes, capacities and air flow. While you can use several different types of coils for a particular application, each one is specifically designed for a particular job. Even if the capacity is right, the size or air flow may not be.

Evaporators are available in three types of defrost: Air or off cycle, electric and hot gas. They are also available in single or three phase electrical depending on job requirements. When needed, coils can also be provided with special coatings or even copper fins. Any cooler storing open salads or vinegar based foods, for example, needs to have coated coils to avoid coil corrosion.

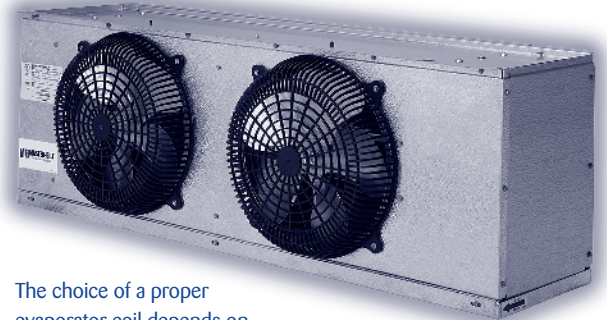
Proper Coil Spacing

Coil spacing can depend on a number of variables. However, for most standard walk-in applications with 9 foot ceilings or less and where low profile evaporators are used, there should be no more than 7 to 8 feet between each evaporator or between the evaporator and the walk-in wall.

Temperature Difference

Temperature difference (TD) is the difference in temperature between the box temperature and the evaporator suction temperature. For example, if you select a box temperature of 35°F and a coil with a suction temperature of 25°F, that's a 10 degree TD. Most

medium temperature evaporators should be selected in the 9 to 12 degree TD range; and low temperature evaporators should be selected in the 8 to 10 degree TD range. TD is important because the greater the TD, the less capacity the condensing unit puts out,



The choice of a proper evaporator coil depends on many factors including coil spacing, air flow and temperature difference.

unless this is taken into consideration when the condensing unit is selected. Higher TD also results in more moisture being removed from the air (lower relative humidity). We can use that physical property to our advantage in applications like meat cutting rooms where a high TD (approximately 20 degrees) is required to dry the room and keep it as dry as possible to prevent bacteria growth, especially after clean up at the end of the day. Refrigerated warehouses where product is stored in cardboard boxes is another application requiring a high TD. Again, the air must be dry, so a TD of approximately 15 degrees is desired.

– Continued on page 2

Walk-In Evaporator Coils 101 (cont.)

Air Flow

You will need to determine the best air flow to fit type of product stored in your walk-in. With unwrapped products like fruits, vegetables and meat, a high air velocity can quickly dry the product and reduce quality while a lower velocity slows down the drying process. In a blast chilling or freezing application, however, a very high velocity is required to rapidly remove heat from the product. In addition, when blast chilling or freezing, the room temperature should be at least 10 degrees below the desired product temperature. With the combination of high air velocity and high TD, the product should be covered, wrapped or have a tough coating or skin to prevent drying.

The air throw, or distance air must cover inside the walk-in, can be increased depending on the height at which the coil is mounted (the higher the coil, the further the air throw) or the type of fan guard used. Most evaporators are available with extended throw fan guards if the application requires air to cover a longer distance. The minimum air flow should be around 50 feet per minute.

Run Times and Defrost Types

System run times are also an important consideration. Generally a run time of 16

hours is selected for air or off cycle defrost. What this means is that the refrigeration system is sized so that it will run 16 of every 24 hours during the day when the outdoor temperature is the maximum it is expected to be. During the other eight hours, the system is off allowing the evaporator fans to blow the room air (which is above freezing) across the coil to defrost any ice built up during the run cycle. This type of defrost is generally used in room temperatures 35°F and higher. An exception to this is where the coil temperature is above 32°F. In that case a run time of 20 to 22 hours is acceptable.

Electric or reverse cycle (hot gas) defrost is used when the room temperature is 34°F or less. The standard run time for this defrost type is 18 to 20 hours out of every 24 hours when the outdoor temperature is the maximum it is expected to be. A longer run time is allowed since defrosting occurs much faster with electric or hot gas methods, which also means less off cycle time. An exception to this is where the room temperatures are between 25°F and 35°F, a run time of 20 to 22 hours is acceptable.

Master-Bilt's optional Master Controller electronic control system includes reverse cycle defrost as standard for both medium and low temperature applications.

Thanks to Master-Bilt sales engineer Louis Miro for contributing this article.

Master-Bilt Sales Team Grows

Master-Bilt is pleased to announce that Steve Asay has been appointed national accounts manager for refrigeration systems.

With his many years of experience in the refrigeration industry, Asay's main focus is increasing Master-Bilt's market share in rack refrigeration and associated products.

Also joining the Master-Bilt sales team is Johnson Commercial Agents. Based in Mendota Heights, Minnesota, they will cover their home state as well as North

Dakota and South Dakota.

Moving a bit further north, Ross Marketing is the newest Master-Bilt representative in Canada. Ross is headquartered in Grand Marais, Manitoba and will cover that province as well as Saskatchewan.

"Steve, Johnson Commercial Agents and Ross Marketing all bring valuable experience that will benefit Master-Bilt and our customers," said Bill Huffman, VP of sales and marketing.



Product Scene

TEM & TEL Models Get A Refresh

Master-Bilt's TEM/TEL model glass door endless merchandisers were recently redesigned for an enhanced look and increased product packout.

With just a quick glance, the changes are obvious. The exterior stands out with its rounded corners and a new curb design at the bottom of the cabinet. These updates make for a more eye-appealing case but there are more practical revisions "under the hood." Inside, the evaporator coil has been recessed adding an extra 6¹/₂" of product visibility. The merchandising area has also increased approximately 11.5%.

Electronic controls are now standard and provide precise temperature monitoring as well as alarm features. Electrical and refrigeration access is on top of the cabinet making installation easier.

Energy efficient options include LED lighting and hot gas defrost.

TEM cooler and TEL freezer models are available as stand-alone models or can be combined in a continuous lineup to suit practically any merchandising requirement. Both 24" and 30" wide door models are available.



External enhancements aren't all that's new on the re-designed TEM/TEL endless merchandisers.

BMOA Series: More Grab & Go Space

As with the TEM/TEL models, increased merchandising space is a big advantage in the new BMOA series open display merchandisers.

Beginning the first of 2012, the BMOA series will replace the long-running QMVM and QMVM-L models. The BMOAs will occupy approximately the same footprint but will deliver increased packout.

Similar to the QMVM models, BMOA models are equipped with three tiers of lighted shelving with pricetag molding. However, the BMOA's shelving is 17" deep which is an improvement over the 14" deep shelves of the QMVMs. The shelving will remain the two-position cantilever type to maximize product visibility.

A couple more things that won't change are the slotted interior back wall and top for increased airflow and standard electronic control system.

The four-foot wide BMOA-48 is currently available with plans to add three-foot and six-foot wide models by the end of the calendar year.

Other planned model options include glass end versions and low profile models.



BMOA open air merchandisers offer more packout space with the same foot print as the current QMVM models.



The best car safety device is a rear-view mirror with a cop in it.

—Dudley Moore



JUST FOR GRINS

Passing The Buck

A woman in a small rural town walked out of her house one morning to find a dead mule blocking her driveway. So she called the police to take the body away.

The police told her that if there wasn't any sign of foul play, they couldn't do anything. They advised her to call animal control.

The animal control officer told her that since the animal was dead they couldn't do anything, and suggested she call the sanitation department.

The head of the sanitation department told her that his trucks were authorized only to haul away properly bagged garbage. If the woman wanted them to remove the dead mule, she'd have to get special authorization from the mayor's office.

Very frustrated by now, the woman called the mayor's office. The mayor was annoyed: "I have a lot of important business to deal with! Why on Earth are you calling me about a dead mule?"

The woman replied, "I need someone to take it away, but first I wanted to notify the next of kin."

The Helpful Farmer

A farmer came out of his house late one afternoon to find a large hay wagon overturned on the road. A small boy was trying valiantly to turn it right side up, but of course he was having no luck, and he was crying loudly.

Trying to calm the lad down, the farmer said: "Hey, don't cry. Let's go inside and have some dinner, and then I'll call my sons to bring the tractor to pull this wagon upright again."

"I don't know," the boy sniffled. "My dad is going to be awful mad."

"Don't worry, I'll write him a note," the farmer said. So they went inside and ate dinner.

After dinner, the farmer told his sons to get the tractor from the barn. "Will this take long?" the young boy asked. "My dad's still going to be mad."

"It'll be just a few minutes," the farmer said. "How far do you have to go to reach him?"

"Not very far," the boy said. "He's under the wagon."

A Question Of Honesty

A little boy and his mother were visiting a cemetery, placing flowers on a relative's grave. The boy wandered around for a while, looking at the tombstones, then came up to his mother and asked, "Mommy, do they ever bury two people in one grave?"

"I don't think so," his mother replied. "Why would you ask that?"

"Because over there I saw a grave that said, 'Here lies a lawyer and an honest man.'"

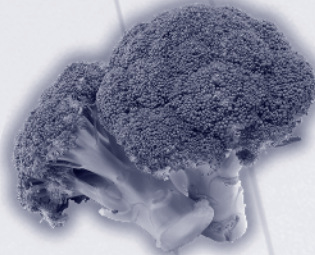


Upcoming

- Canadian Restaurant and Foodservices Association (CRFA) Show
March 4-6, 2012
Direct Energy Centre
Toronto, ON
- ApEx Show
April 3-4, 2012
Moncton Agrena
Moncton, NB
- FEDA Convention
March 28-April 1, 2012
JW Marriott Star Pass Resort & Spa
Tucson, AZ
- NRA Restaurant Hotel/Motel Show
May 5-8, 2012
McCormick Place
Chicago, IL



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FAT FREE



FREIGHT FREE

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Quick ships feature:

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- Available remote or packaged refrigeration systems
- Choices of coolers, freezers or combos for indoor or outdoor

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Extendicare Canada Ontario

When Marian Naskret, consultant for Extendicare Canada's Engineering Services Department, was looking to outfit a Northern Ontario Extendicare long-term care facility with a new walk-in cooler, his primary concern was finding one that would withstand the rigorous weather and temperatures of forty degrees below zero, since there was not enough room inside the kitchen to house a walk-in.

"Not too many walk-in manufacturers build a unit to support the snow load, let alone the frigid temperatures," says Naskret, who installed his first Master-Bilt walk-in in Canada in 2009 after learning of the company at the Canadian Restaurant and Foodservices Association Show. "Master-Bilt walk-ins are not only strong enough to withstand the weight of heavy snow but they are great for any outdoor installation."

For the past 40 years, Extendicare has been one of the largest chains of long term care facilities in Canada, with US operations as well. The Company manages some 90 locations from Ontario to Alberta, Canada, with capacity for approximately 10,400 beds.

In 2010 when another Extendicare facility in Toronto was being renovated to have a fully operational kitchen, Naskret didn't think twice before turning to Master-Bilt. "My positive previous experience made Master-Bilt an obvious decision," says Naskret, who boasts

about Master-Bilt's standard 4" thick walk-in panels that "will allow Extendicare to see the value in any new installation due to the great energy efficiency and cost savings."

As a certified engineering technologist, Naskret knows a quality product when he sees one, stating, "Master-Bilt units are constructed with highly insulated walls which result in less wear on the compressor since it does not have to run as often to keep constant temperatures. The polyurethane insulation allows for exceptional energy savings all around." He also points out that the Extendicare units feature Master-Bilt's award winning Master Controller Reverse Cycle Defrost technology for refrigeration systems which saves energy over traditional mechanical systems. The reverse cycle defrost, for example, reduces defrost energy usage by up to 80% over traditional electrical defrost methods. The elimination of head pressure control valves also dramatically lowers electrical bills.

Naskret says, "based on our experience with our first few installations, we made Master-Bilt an Extendicare Preferred Vendor. Anytime one of our facilities needs a walk-in or upgrade, we will know exactly where to turn for the most durable, cost efficient unit. I am personally looking forward to a whole lot more being installed."

Extendicare is in the process of building two new facilities in Northern Ontario in the cities of Sault Ste. Marie and Timmins.

We need your help!

To make **Cool It!** a better publication for all, we need your questions, comments and story suggestions. Send in your ideas to Lynn Burge at lburge@master-bilt.com or fax them to 800-232-3966.



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