



# An Introduction to Refrigerated Display Cases for Food Retail

Photo 8: Serve-over counters

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For as long back as I can remember, shopping for fresh vegetables, fruits, eggs and meat, was always entrusted to the lady of the house or the cook in our homes. The *sabziwallah* would turn up daily on the street, or even knock at the front door with a basket loaded with fresh vegetables. The stores selling vegetables or fruits in the market had no air conditioning, nor did they have any refrigerators for storing them. All items were fresh and had to be sold by the end of the day.

The scene is now changing. Large retail chains are making a presence in most cities, slowly penetrating into most localities with air conditioned stores and refrigerated open display cases. Some of them have even started to advertise with flyers, enclosed with the daily newspaper. Something unimaginable

even five years ago!

Most of us have already witnessed the changing face of the Indian retail industry in the form of shopping malls and department stores. The next level of change is now being witnessed in food retail, i.e. the way we buy vegetables, fruits, bread, milk products and our groceries.

Those venturing into organised food retail need to decide on issues like the size and footprint of the store/s. Different formats of stores include:

- Hypermarkets : > 10,000 sq.ft.
- Supermarkets : 4,000 – 10,000 sq.ft.
- Mini Supermarkets : 1,000 - 4,000 sq.ft.
- Convenience stores : < 1000 sq.ft.

Today, there are a range of

refrigeration solutions that cater to a wide variety of food retail needs, whether for air conditioned stores or otherwise. Irrespective of the kind of store you may be setting up, the following time-tested food retail concepts that have evolved in the developed world, may be worth noting:

## **Food Retailing Concepts and Refrigeration**

### **1. The Wall and the Well**

When designing a functional food retail outlet, the stored food can either be displayed vertically against the *wall*, or horizontally along the floor, i.e. in the *well*.

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### **About the Author**

**Neeraj Seth**, is a management graduate with over 24 years experience in marketing. He has spent 12 years in the field of commercial refrigeration and has had senior management stints in organisations like Blue Star Ltd. and Usha International.



Photo 1 : Display cases against the wall

From a refrigeration point of view, there are a vast variety of cooling solutions to choose from for both applications. For instance, you can set up upright glass door showcases – both freezers and chillers – against the walls. One of the common blunders by many mom-and-pop stores, is that they tend to accept the free showcases supplied by various food and beverage suppliers.



Photo 2: Display case with self contained refrigeration system

In the process, they tend to ignore the symmetry and uniformity of the display cases inside their own store, as these display cases supplied by various companies come in different sizes and with their customised branding, often marring the in-store ambience. On the contrary, the modern-day store owners can insist on a uniform and tall display along the walls to give a neat appearance of foodstuff on display, see Photo 1.

There are open type multidecks available now for air conditioned stores, which can



Photo 3: Display cases with remote compressor unit.

either be ‘plug in’ types with a self-contained refrigeration system, see Photo 2, or remote units where you can place the compressor and condensing unit outside and thus keep the noise away, see Photo 3. For very large superstores, there are rack refrigeration systems available which can control the temperature in multiple showcases with one centrally-operated remote condensing unit system.

For the well, there are options ranging from simple type plug in glass top freezers and coolers, see Photo 4, to large

open type island freezers/ coolers with remote condensing unit (see Photo 5).

## 2. Access and Visibility

The food retail concept is fairly straightforward... the more you can show, the more you will tend to sell. Similarly, the more your customers can comfortably access, the more they will tend to buy.

Photo 6 amply demonstrates how to maximise the display area, using the same footprint of refrigerated space. The same point can be illustrated with open type multidecks.

## 3. Modularity

Not surprisingly, an average food store evolves with time as it learns local needs. Its refrigeration needs may

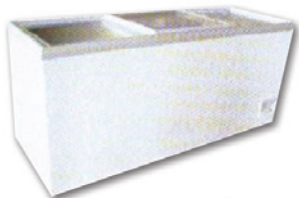


Photo 4: Glass top freezers and coolers

grow with time. Today, there are modular refrigerators / freezers available, that can just be added on, to give the same uniform look and feel to the store, with one door opening onto the left and the adjacent one opening onto the right, to give that neat cupboard-like look. (see Photo 7).

#### 4. Serve-Over Counters

Many supermarkets plan manned or selfservice serve-over counters for bakery products and for serving food out of a live kitchen inside the store. There are many design options suitable for such applications. Photo 8 illustrates one such option.

#### 5. Lifetime Cost

As the competition intensifies, the obvious pressure on food retailers is not only to cut capital costs down to the bone, but also to look at ways of minimising recurring costs, such as energy consumption, life span of equipment installed, service and maintenance costs and replacement costs.

There are many other facets with respect to the refrigeration needs of these stores that need to be kept in mind, while selecting them in the Indian context. I will attempt to deal with them one by one:

#### High Ambient Conditions

Most parts of our country have high ambient temperatures throughout the year. There have been instances of store owners having bought refrigeration systems, such as open type Multidecks and Island Freezers, after having been tempted by a colourful international catalogue, only to find them not delivering the optimal temperature in our rigorous local conditions.



Photo 6 : Maximising display area with same footprint



Photo 7: Modular refrigerator/freezer for growing business needs.

#### Power Outages

The other typical factor in the Indian context is the power outages in most parts of the country, including the metros (except Mumbai and Kolkata). This puts extra pressure on the store to budget for gensets and to contemplate whether to use them only for lighting, or also for air conditioning. It will be a while before the international concept of supermarkets remaining open for 24 hours catches on. The stores will therefore need to grapple with turning off electricity / air conditioning during the night hours and its consequent impact on certain foodstuff stored in expensive refrigerated cabinets, which may not perform optimally when the ambient temperatures rise above 25°C.

#### Unstable Voltage

This is yet another challenge faced by the providers of refrigeration solutions, not only with respect to its impact on the efficiency and longevity of the compressors and the refrigeration system, but more often than not, on the electronic circuits that tend to be far less tolerant of wild fluctuations. Alternately, there is a need to factor in capital costs towards installation of servo stabilisers and voltage correctors.

#### Dust in the Environment

This is another factor which ought to be considered, particularly with reference to the after-sales-support provided by the refrigeration service contractor, or by the maintenance wing of the superstore chain.

#### Spares availability

Yet another aspect is the availability of spares, more particularly if they happen to be proprietary to the supplying company. There are very few companies in India who take service and spares management seriously, and a quick reference check on the supplier may be well worth the effort.

#### Service Support

The challenges mentioned in the foregoing, as also the normal wear and tear of the refrigeration system, will warrant seeking service help from the refrigeration provider. Many companies are setting up multi-location stores, and a closer look at the service network of the service provider is certainly called for. ❖