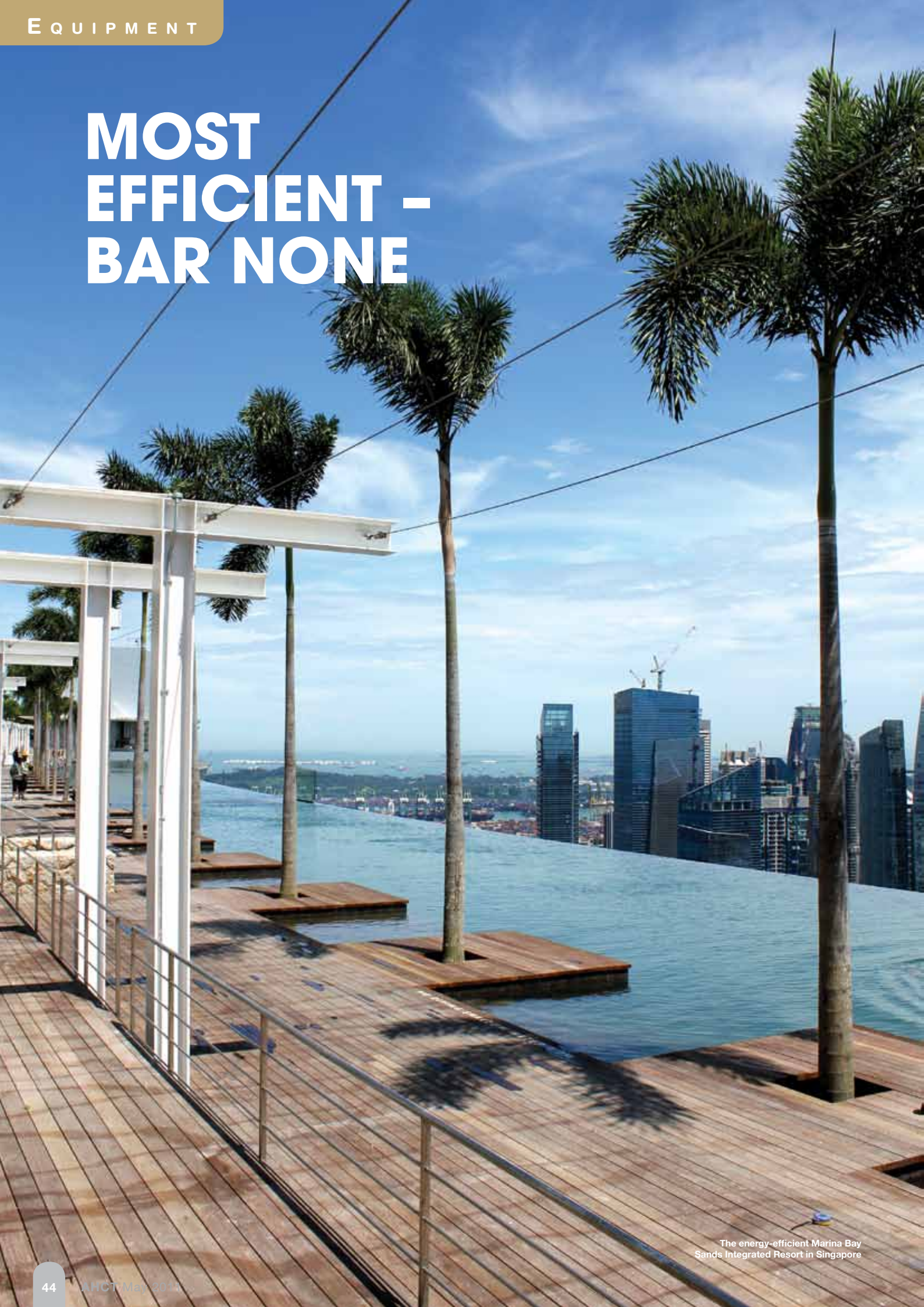


# MOST EFFICIENT - BAR NONE



The energy-efficient Marina Bay Sands Integrated Resort in Singapore



Indel B's K40 Plus uses the environmentally friendly R134a refrigerant

Sort out your compressors from your eutectic plates with *Andrew Dembina's* guide to energy- and money-saving minibars

Installing energy-efficient minibars can have a big impact on energy costs. It is one guaranteed element of the guestroom that is left active when a guest is not in their room. Frequently, additional units are also used in common areas such as gyms, spa areas and club lounges, adding up to plenty of power being constantly used. Some manufacturers, being led by hotels looking to both lower utility bills and operate in environmentally conscious ways, are providing solutions.

Marina Bay Sands in Singapore has adopted the use of energy-efficient devices as part of an entire energy-saving strategy for the building.

"Protecting the environment is Marina Bay Sands' long-term commitment and in order to demonstrate that, we implement eco-friendly operational processes to look for ways to protect nature. At the core of Marina Bay Sands' green initiatives is an Intelligent Building Management System that allows the lighting, cooling and water supplies to be automatically controlled," says a spokesperson.

"One of the initiatives is the use of energy-saving minibars in the hotel rooms. The monitoring system in the mini bars helps to regulate the cooling system according to the hotel's preference. Besides that, the hotel rooms at Marina Bay Sands are also equipped with an advanced eco mode system where guest have the option to bring the room temperature up by a few degrees when the room is empty," the spokesperson added.

United States manufacturer Bar-Maid offers a "green operating compliant" professional line of silent minibars and refrigerators, with



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Capacity crowd – the K60 from Indel B

## Potted history of the minibar



Cold blast from the past – the Hong Kong Hilton in its heyday

In the early 1970s, The Hong Kong Hilton, with 840 rooms and suites and an average year-round occupancy of 97 percent, then the most profitable hotel within Hilton International, was one of the world's first hotels to have small refrigerators in every room in which soft drinks and mineral water was given away

to the guests. The free drinks were costing the hotel a considerable amount of money and gaining no revenue benefits.

The F&B team devised a small shelf to hold two of each type of spirit and place these mini shelves into the rooms and fill the refrigerators with beer, wine, champagne, mixers and soft drinks, that would be sold to the guests, using an honesty usage system.

One floor was initially installed with the mini bars and an operator trained to refill all of them daily and log usage. A guest usage bill was placed next to each bar for guests to fill out drinks consumed. This was collected by the mini bar operator for collating with central guest charges.

It was soon calculated by Hilton corporate headquarters in New York that minibar profit would increase the bottom line of the hotel by around five percent and it adopted the system in all its hotels.

And then the biggest form of flattery spread like wildfire throughout the international hotel world.

changeable door panels to match every decor. Using the compressor-free cooling technology, Bar-Maid Silent minibars and refrigerators are completely silent, energy efficient and maintenance-free with absolutely no moving parts. It is a prolific supplier in hotels in North America.

## E-frigeration

Embracing intelligent thermostat technology, Bartech Automatic Minibars's E-Fridges communicate via a wireless or wired network with a central server, explains the company's Singapore-based Managing Director, Asia Pacific, Jan Strijker. Surprisingly, the first generation of such units were rolled out by the French company in 1992. "This server, in turn, is interfaced with the front office system. As such, the Bartech minibars cool according to room status. The hotel determines what the ideal temperature is for [a unit in] an occupied room – for example four degrees Centigrade. When the room is occupied, the computerised energy saving system (CESS) sets the temperature of the minibar in that room accordingly. When the guest checks out, the cooling system shuts down for that room, until the minibar reaches the temperature the hotel has set for a vacant room, for example 10 degrees Centigrade. Because of the eutectic [chemical-filled cooling] plates installed in Bartech minibars, which function like icepacks, the temperature raises very slowly for that duration. As soon as the temperature hits that 10 degrees, the electronic thermostat in the minibar starts the cooling cycle again to maintain a constant 10 degrees. During this raising of the temperature, there is no electricity used for the cooling. This allows users of Bartech Automatic Minibars to save 50 percent of electricity over the use of traditional 'energy efficient' manual minibars."

## Our surveys said

In 2003, a comparative survey was undertaken by United States energy-efficiency company, Servidyne Systems, for a 398-room hotel in America. It concluded that Bartech's CESS would save 26,400 kilowatts per hour in the hotel, which then translated into annual savings for the hotel of US\$2,600.

Compared to traditional refrigerators that work with compressors pumping gas around a unit, there is also a lot less noise produced from this system and fewer mechanical parts are used, so fewer components to potentially break down.

"Automatic is the only way to go if a hotel is serious about energy savings with minibars," says Strijker.

Another sizeable producer of energy-efficient minibars, also incorporating eutectic technology – for more than 15 years – is Indel B, based in Rimini, Italy.

Romano Berardi, Key Account Manager told *AHCT*, "Several years ago, market research was done by the Danish Hotel Association about minibars and related energy consumption. It turned out that the energy consumption of minibars could represent up to 10 percent of the total energy consumption of a hotel.

"Minibars, in fact, are in operation every day for many hours and many years.

"The most common technology to produce minibars is still absorption, using ammonia. The absorption system needs an electric heating source to operate.



Bartech fridges, as with some other makes, only need to use power for a few hours a day



Bartech minibars operate silently and efficiently

“To produce our energy-efficient minibars we use a premium quality low-noise compressor – the compressor is the most efficient technology and the most commonly used worldwide. We also use an efficient eutectic plate. A eutectic plate has the property to freeze the liquid solution that it contains in a short time and to remain cold over a long time. And we use an electronic timer.”

He cites this Indel B compressor as big factor in energy saved. “It has a very high COP [Coefficient of Performance],” he explained. “The ratio between the energy consumed and the efficiency produced is impressive. And this allows full cool-down of the contents of the minibar in a short time, while at the same time also freezing the eutectic plate.

“The timer controls the operating cycles of the compressor. We have determined that to guarantee a proper temperature for the drink inside the minibar – five to seven degrees Celsius – only four operating hours in the morning and four in the afternoon are enough for our system. Not only do we obtain great energy saving from this but we also extend the life of the product and we have a completely silent minibar at night – when the compressor will be off all time. At the present time, our K PLUS minibars are produced using the environmentally friendly R134a refrigerant and are categorised as Class A+ energy efficient.

“The market is responding positively and without doubt, these products represent a big continuously increasing portion of our total production. Large international hotel chains have selected the Indel B energy-efficient minibars for several years and feedback we receive from them is extremely positive.”

The company claims to produce savings of between 70 to 85 percent in minibar running costs compared to traditional units. **AHOT**

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