

## KNOW-HOW

February 2017

### India in the centre of attraction

**ACREX India 2017, South Asia's leading industry trade show in the fields of heating, ventilation, air conditioning, refrigeration (HVAC & R) and building services, organised by NürnbergMesse India, as the implementing company, and the Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE), is gearing up to be a truly international show. India is gradually but surely shifting position to become the centre of attraction for global players wishing to sell their products and offerings to Indian consumers. The Indian consumer market is ever growing and so is infrastructure. The HVAC & R industry benefits hugely from this growth. India can be classified as a consumer market and this attracts many international companies to sell their products here.**

#### **Cold Chain is important for India**

According to the Global Cold Chain Alliance (GCCA) database, India has the largest total capacity of refrigerated warehousing in the world when ranked by country. In 2016, India's reported capacity was 141 million m<sup>3</sup>, an 8 % increase over the 130 million m<sup>3</sup> in 2014. Although refrigeration was expanded, a gap of 14 million m<sup>3</sup> (3.28 million metric tons) relative to the need remained, according to "The Times of India". The necessary investments include pack-houses, reefer vehicles and ripening chambers in different parts of the country to connect the farm production sector with retail outlets. India presents a unique situation, while its income per capita was growing, modern retail formats have very low presence in the share of food sales and transportation quality is not as high as in other large emerging markets. Hence the growth in refrigerated warehousing in India is not well explained by the driving forces that are generally predictive of market penetration of the cold chain. There are indications of government support for refrigerated warehousing and related infrastructure.

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## **The growth potential of refrigeration industry**

The commercial refrigeration industry in India, which is dominated by the cold chain segment, has been booming at an 18–20 % compound annual growth rate for several years running, and is currently valued at US\$ 3.1 billion. The rapid growth potential of this segment can be seen from the fact that its size is still only 12–13 % of that of China, which has reached US\$ 24.5 billion.

## **Food Production in India**

There is another factor that underscores the large growth potential for the food processing industry and the cold chain. India is the largest milk producer in the world with an annual production level of 132 million MT; the second largest fruit and vegetable producer with production of 82 million MT of fruit and 165 million MT of vegetables; the third largest fish producer with production of 9.6 million MT; and among the top three producers of spices and poultry. Despite this, only 10 % of the perishable produce is processed, and about a third of the food production perishes, mainly due to inadequate cold chain facilities.

## **Air conditioner manufacturers in India**

The Indian air conditioner market is highly fragmented, with over 20 competitors: Indian manufacturers are Voltas, Videocon, Blue Star, Fedders Lloyd and Godrej. Japanese companies have a presence in the country: Daikin, JCI-Hitachi, Panasonic, Fujitsu General, Toshiba Carrier, Mitsubishi Electric and Mitsubishi Heavy Industries Thermal Systems (MTH). Korean multinationals LG and Samsung are also large players in the country. Midea and Haier, two of the Chinese majors, are also present. Carrier, Trane and Whirlpool are the U.S. multinationals with a presence in India.

## **The growth of air conditioner market**

The air conditioner market grew in 2016 after a gap of six years. While complete data for the year are not available yet, industry sources estimate about 19 % growth from 4.3 to 5.1 million products.

## **The latest trends in the air conditioner market**

Technical trends: Rotary compressors are primarily used for RACs due to their higher efficiency and trouble-free operation. Highly India has become the major manufacturer in India for non-inverter as well as inverter rotary compressors within three years of commencing production at its plant in

Sanand, Ahmedabad in West India. In addition to compressors suitable for R22, R134a and R410A, it is also shipping R32 compressors. Air conditioner manufacturers also import large quantities of rotary compressors from Guangdong Meizhi Compressor Company (GMCC), Shanghai Hitachi, Rechi and smaller quantities from Samsung, Panasonic, LG and Toshiba.

There was no change in the trend of refrigerant usage compared with 2015. R22 and R410A are generally used for non-inverter and inverter air conditioners, respectively. Daikin uses R32 for all wall-mounted split air conditioners; it has developed a 4 TR cassette operating on R32. Blue Star and Fedders Lloyd are moving decidedly towards R32. Several other manufacturers have introduced models with R32. The trend among Japanese manufacturers is toward R32. Being the only manufacturer of R290 air conditioners, Godrej has faced and overcome challenges in sourcing. The company has sold about 120,000 R290 air conditioners so far, and claims zero accident in the factory or the field.

The international agreement reached on October 15 at Kigali brings HFCs into the scope of the Montreal Protocol; they were so far being dealt with under the Kyoto Protocol. India and nine other countries of South and West Asia will reduce the use of HFCs by 85 % by 2047 over their 2024–2026 baselines. India, therefore, will not be in a hurry to switch over to HFC substitutes.

## **About ISHRAE**

ISHRAE (Indian Society of Heating, Refrigerating and Air Conditioning Engineers) was established in New Delhi in 1981 by a group of acknowledged experts in each of those fields. Its membership includes more than 12,000 professionals and 3,000 students, and it has 40 local associations in India. It holds trade shows and organises seminars and workshops throughout the country to achieve its principal goal of refining heating, refrigeration, air-conditioning and ventilation technology and the associated services. ISHRAE's publications help to keep readers up to date, enable them to learn new technologies, improve existing skills and introduce new devices with a view to improving indoor air quality.

# CHILLVENTA

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