

ACREX
India 2019

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Bombay Exhibition Centre, Mumbai



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ISHRAE Speaks

ACREX India 2019 raises the bar as the Indian HVAC industry is set for the next level of growth

ACREX India 2019 concluded its 20th edition successfully at the Bombay Exhibition Centre, Mumbai on March 2, 2019. The theme of the 3-day long symposium was to bring together the universe of HVAC sector and create the platform where alliances get forged and path breaking innovation gets showcased for all to witness.

Over 500 companies across varied sections of the HVAC industry presented their latest products creating a vast base of business prospects under one roof. ACREX India is South Asia's largest & dedicated international exhibition and conference on Heating, Ventilation and Air Conditioning.

The event successfully met its objective of providing a multi-functional platform exclusively for HVAC. The show has also enabled the global investment community to connect with stakeholders in HVAC sector in India.

The 20th edition of ACREX India focused on themes of Building Automation (BMS) and Indoor Air Quality (IAQ).

The mega event witnessed participation from more than 25 countries including Belgium, China, Czech Republic, Egypt, France, Germany, Italy, Japan, Korea, Malaysia, Saudi Arabia, Singapore, Spain, Switzerland, Taiwan, the Netherlands, UAE, UK, Ukraine and USA.

A grand opening witnessed by all as visitors pour into the greatest HVAC industry show in South Asia - ACREX India 2019

ACREX India 2019 received tremendous response and footfall exceeding 35,000 visitors.

Concurrent Events that took place at ACREX India 2019:

Curtain Raiser

ISHRAE and Sanhua India organized a Curtain Raiser event for ACREX India on 27th Feb, 2019 - an exclusive precursor event for CEOs, leading developers, architects, consultants and officials from International associations to Connect, Share and Create Knowledge Forums. Besides introducing the event and sharing previews of the following three days of high intensity convergence, the Curtain Raiser event also had a panel discussion moderated by Mr. Vishal Kapur, National Past President of ISHRAE where the prospects and opportunities for the HVAC industry at a global level were conferred.





ACREX Awards of Excellence powered by Daikin

An innovative initiative by the team of ACREX involving a jury of some very senior industry experts to award products & services across categories such as Innovation, Energy Saving and Indoor Air Quality. The evening of this event witnessed a huge gathering and great response throughout the industry verticals as professionals from varied functions participated to applaud the champions.



- Winner of Indoor Air Quality Category:
Mann + Hummel
- Winner of Innovation Category:
Gandhi Automation Pvt. Ltd.
- Winner of Energy Saving Category:
Thermax Limited Energy House

aQuest

A unique competition for students organised by ISHRAE and Powered by HITACHI every year. The Grand Finale of the same that took place on March 1, 2019 @ACREX India saw exemplary participation and performance by the students and future professionals of HVAC world.

Winner: Lalbhai Dalpatbhai College of Engineering, Ahmedabad



ACREX Hall of Fame

The sub-event at ACREX India that has created a new industry benchmark, instituted by ISHRAE and Powered by Danfoss, to recognize the excellence achieved in conserving energy by commercial buildings in the Indian subcontinent. The coveted recognition is aimed to recognize iconic projects in India, where success stories in the HVAC space can be global benchmarks in Energy Efficiency and Sustainability.

Winner: ITC Grand Chola, Chennai





As the bar gets raised, so does the industry's preparation for the next opportunity for an event this big. The next, i.e., the 21st edition is already announced and is receiving an unprecedented response.

The 21st edition of ACREX India will be held in Delhi NCR at the India Exposition Mart Limited, from March 5-7, 2020.

Innovations Galore @ACREX'19

Innovation in the Field of HVAC @ACREX 2019

Greenwave Products Pvt. Ltd. exhibited in Hall 2 at ACREX 2019, as the pioneers in introducing a revolutionary product FRIGITECH which is the result of 30 years of research and development by FRIGITECH Inc., USA. Their products have been available worldwide and now for the last six years in India, successfully catering to many corporates with proven results in energy-saving in all types of HVAC machines.

Energy saved is Energy produced, and the company strives for the same. They guarantee a minimum power saving of 5%kw/tr. The oil in the compressor of an air conditioning machine is for lubrication, but over a period of time it travels through the whole cooling circuit and settles down inside the tubing. This carried over oil is called Oil

For more details visit: www.acrex.in

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Fouling which hinders the smooth flow of refrigerant, acts as a barrier in transmitting heat, and hence the machine has to run for a longer time to achieve the required temperature. This increases your power bill while lowering the cooling efficiency. There is no way to remove this oil layer other than to flush the unit resulting in down time and subsequent loss in production.

FRIGITECH solves this problem completely. There is no down time, and only a onetime treatment is needed for the life of the machine. There are no side effects and it is compatible with all types of gases, oils and seals. It increases the lubrication by 1500 times resulting in longer life of the machine, lower maintenance cost and elimination of noise and friction.

Innovations Galore @ACREX'19

Innovation in Heat Exchanger by Bright HVAC Engineers

Manufacturers of shell and tube type condensers and evaporators used in all air conditioning and refrigeration plants and systems, Bright HVAC's products came with a specially designed Heat Exchanging tubes. Their technical designers have extended the surface area with a variation in the external and internal geometry to deliver better performance plus efficiency. This results in reduction of not only the foot print of the

equipment, but also in reducing the weight of equipment as well as the cost.

The best heat exchanger is the one in which maximum heat transfer takes place with minimum input material (the weight, size and cost ratio). Since their products are manufactured in India, they are able to provide extremely competitive prices in comparison to the imported alternates.



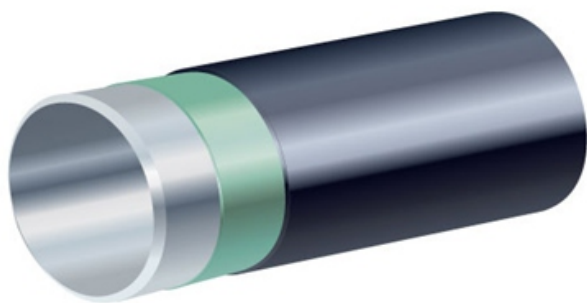
Innovations Galore @ACREX'19

GIP Pipe - A new age piping solution that promises quality and reliability

Jindal Pipes Limited presented their innovation at their Stall Hall 1 at ACREX India.

GIP Pipe is a galvanized pipe with an additional layer of polyethylene developed by D.P. Jindal group, it can also be called a 2-layer coating on Galvanized Pipe.

PE (Polyethylene) layer on galvanized layer with adhesive provides a strong adhesion under wide range of service temperature with smooth and uniform finish.



1st layer: Galvanized Coating

2nd layer: Adhesive

3rd layer: Polyethylene (PE)

How GIP is better than galvanized and other pipes?

- Excellent corrosion resistance: GIP pipe has excellent resistance to acids, alkalis, humidity and other environment conditions and ensure longer service life under highly corrosive soil conditions. GIP pipe can be used for external and internal piping.
- Excellent cathodic disbandment: GIP pipe shows a superior resistance to cathodic disbandment, as compared with other coating methods.
- Longer life: GIP pipe has an expected life of 50-70 years.
- Excellent service temperature: GIP pipe can be used between a temperature range of +85 and -40 degree celsius, thus suitable for both cold

and hot conditions. It also has resistance to electricity.

- Faster installation: Since GIP pipe is factory coated pipe, it is ready to be installed at site, with reduced installation time. We are also providing coated fittings upon request, however fittings or weld portions can also be coated at site with liquid epoxy.
- Reduced life cycle cost of pipe: GIP pipe has a lifelong and maintenance free coating. There is no need to provide any other protective coating during the life time of pipe.
- Finishing: GIP pipe comes with factory coated PE, which is smooth in finish. As in other type of coatings which is depend upon workmanship at site and is not uniform.
- Free from pinhole: As the polyethylene (PE) film is made by the hot extrusion with laminar pressure technology, it is homogeneous and free from pinhole.
- Excellent impact resistance: The polyethylene (PE) is applied on the outer layer. Hence, the GIP coated pipes have excellent impact resistance and make it difficult to damage in handling operations (storage, transportation and laying etc.)
- Easy repair: Surface defects that may occur during transportation, storage and lying of the pipe can be easily repaired.

What are the sizes and ranges available?

GIP pipes are available in Size ½" to 16", wall thickness up to 12.7mm as ERW and seamless pipes. The coating thickness ranges between 0.8mm to 4 mm as per requirement. There is an option of coating color in black, red, blue or yellow and works for all national and international grades.

What is the cost advantage?

GIP pipe is slightly costlier than galvanized pipe but



is cheaper if we compare its life cycle analysis. GIP pipe has an expected life of more than 40 years. There is no surface maintenance cost like painting, finishing etc. GIP pipe is cheaper in cost as compared to rapping coating with coal tar for underground piping. It is faster in installation as compared to other coating provided on pipe.

What are the application areas?

Innovations Galore @ACREX'19

Bonphul Air Products, India's First Indoor Oxygen Optimizing Company

Around 1.2 million people in India die annually due to air pollution, which is alone costing India around 3 per cent of the total GDP. While already reeling under air pollution, a silent but highly critical air quality problem is the lack of adequate oxygen level in the air. Air is a mixture of about 21% oxygen, 78% nitrogen and 1% other gases. However, in most cities, the oxygen level in the outdoor air is around 19%, indoor even less. Only breathing in air with 21% oxygen level can ensure a normal healthy life. A minute drop in oxygen level can drastically affect our health.

Bonphul OxyMax range of oxygen optimizer is a new genre of Indoor Air Quality solutions. OxyMax harvests oxygen from the outdoors and drives it indoors. This helps to maintain the required 21% oxygen levels in the air for any indoor space, be it residential or commercial.

The story behind the innovation of the OxyMax, oxygen optimizer, has an intriguing anecdote. To honour his wife's desire to have the cleanest home

Underground/concealed pipe lines: GIP pipe is the best solution to those applications where fluid /gas pipelines are required to be run underground /concealed. GIP pipe can work in highly corrosive soil conditions, humidity, acids and alkalis environment etc. for longer life span as compared to galvanized pipes. Better suited for MEP applications.

in Delhi-NCR, a region infamous for its air pollution level, the current CEO of Bonphul, Mr Prodyut Bora, did a three-month long research on air pollution, when he found about the present oxygen levels in air. This then put Mr Bora on a hunt for a solution to the problem. One thing led to another and then came to the creation of India's first oxygen optimizer, formulated with the PSA technology, that harvests oxygen from the other outdoor air and drives it indoors.

Bonphul Air Products exhibited at Hall no. 2 at ACREX India 2019.

On the occasion of ACREX 2019, Narendra Bisht, COO, Bonphul Air Products said, "Apart from oxygenation as our flagship product service, we are also into ventilation and purification. We are building the 'World's Most Comprehensive IAQ Company', and as we are comparatively new in the block, we believe ACREX India will help us gaining a stronger foothold and also in expanding ourselves all across India."

Innovations Galore @ACREX'19

Pre-Insulated Pipes by Lloyd Insulations (India) Limited

Chilled Water Piping is the major input for Air Conditioning System. It is very important to maintain the proper temperature. Chilled water piping run over ground as well as underground and

also to exposed areas to human touch. One of the major issue faced with chilled water piping is condensation.

Chilled water piping is insulated and then an



environment protection cladding is provided. In upcoming smart city concept where a centralized AC plant will be there and from there chilled water will be running underground to various buildings. Further, now days in commercial building concept, the building owner / developer supplies chilled water through the shaft or from the outside to various floors and the users subsequently use it.

Now, all these required a very sturdy chilled water piping system and with longer expected life. These pipes are exposed to environment hazardous of various types. This pre-insulated pipe concept takes into account all these factors and provides a proper insulation with a mechanically strong cover, which ensures the pipes successfully run underground, foot traffic prone over ground and environment hazardous. Pre-insulated pipes are already proven in the country in Oil Sector for over 20 years.

Pre-insulated Pipes is ready to use product. Pre-insulated pipes can be directly installed as a single exercise as compared to conventional system of 3

steps i.e. Pipe, Insulation, Cladding, thereby saving lot of time. Pre-insulated pipes can be manufactured at the factory or at site workshop up to length of 12 meters.

The insulation material will either CFC, HCFC free Polyurethane Foam (PUF) OR Polyisocyanurate Foam (PIR) insulation with thermal conductivity value of 0.023 W/mK at 10 degree C mean temperature. The product will have a very hard cover of HDPE sheet, which will ensure its protection from underground soil conditions or over ground application areas exposed to seasonal environment abuses and foot traffic. A normal insulation and cladding materials like black tissue, aluminium foil, aluminium sheet, plaster etc. used conventionally are prone to damages in terms of underground application or exposure to seasonal environment hazardous and human foot traffic for exposed area applications.

This product already has a proven track record of 20 years in the Oil Sector and 10 years in the Building Sector.

Innovations Galore @ACREX'19

Sanhua's Innovations being Displayed in ACREX 2019

Going by the lines of Thomas Edison: "There's a way to do it better-find it". In today's world, the globalization and technological advancements are taking bigger shapes & every day the dawn comes with some innovative technology, taking us all one step ahead into the digital world. Sanhua believes in getting involved deeper into the research and development of businesses, developing more valued products for customers to create a better world for tomorrow.

Innovation 1: Sanhua SEC and LPF EEV Package

Electronic Expansion Valves (EEVs) are highly efficient compared to the conventional Expansion devices & are the future of HVAC&R industry. For a decade now, Sanhua is the leader in development and manufacturing of EEVS for HVAC&R industry.

The newly designed LPF EEV is as tight as a solenoid valve once it is completely shutoff thus to prevent liquid refrigerant to evaporator or compressor. With the dream of bringing the cost of EEV Package similar to TXV systems, Sanhua had been making relentless efforts to develop the most Innovative, Efficient & Economical EEV package solution technology. Finally, with continued hard work, Sanhua is happy to launch the SEC & LPF EEV PACKAGE SOLUTION which offers the most efficient EEV solution at the best Economics.

The SEC60x controller is smart in itself & for most of the cases you don't need a professional technician to set up complicated PID parameters. The SEC60x, the LPF series EEV and the pressure transmitter is providing a solution at a cost which is



closest ever to the traditional mechanical solution (TXV + Solenoid Valve), therefore no surprise to hear a compliment from a renowned OEM design engineer “I have only been waiting 20 years for a cost-effective and affordable EEV and controller solution which I am overwhelmed to receive from Sanhua”.

Innovation 2: Sanhua VPF Series Large Capacity EEV

Sanhua’s VPF series large capacity EEVs adds new feathers to the EEV era, as it is the world’s first large capacity EEV using full stainless steel and bi-metal connection & its V-shape flow channel realize real identical flow curve from both directions to ensure good performance for both cooling & heating mode. Moreover, it allows flexible installation position for easier piping design for customer’s requirements (upside down for shut-off function free system).

Innovation 3: Sanhua CO2 Micro Channel Condenser & Evaporator

Life Cycle Climate Performance, or LCCP, the use of a low global warming potential refrigerant such as CO₂ can make this effect negligible (CO₂ has a GWP of 1, compared to ~4000 for a refrigerant like R404A). On the other hand, there are properties of CO₂ which also help the system’s efficiency in food retail applications, including excellent volumetric efficiency (more than 6 times the cooling effect per volume as R22), low compression ratio (the ratio between inlet and outlet pressures at the compressor), and low viscosity (making it easier to pump).

Additionally, new technologies had been developed that takes advantage of the unique properties of CO₂ to improve efficiency Sanhua have developed Micro channel heat exchangers (MCHE) to be used for CO₂ refrigerant thus providing even more higher efficiency levels to CO₂ refrigerant systems tested up to burst pressures of 36.6Mpa. Sanhua is working on the new technology with some renowned OEMs in Europe. With MCHE being already highly efficient & economical as compared to traditional copper

condensers makes the CO₂ refrigerant systems more viable & promoting more sustainability.

Innovation 4: Sanhua New MDF Solenoid Coil For Screwdriver Free Installations

Sanhua’s New MDF solenoid Coil MQ-A11 inhibits special strength for quick and easy screw driver free installation. At the same time, the product offers outstanding product features and it fulfill additional installation requirements of a wide range of applications in the refrigeration, air conditioning and heat pump industry. Some of the features include:

- Quick installation via tool-less wire connection system
- Easy cable entry management due to jam screw cable tightening
- Improved protection class
- Flexible and solid cables
- Reduced energy consumption

Sanhua’s New MDF solenoid coil is a true marvel of innovation, making the installations too quick & convenient!

Innovation 5: Sanhua Highly Efficient 4-Way Reversing Valves

Heat pumps are becoming more & more common & due to their high efficiency they are being promoted by several government bodies across the globe. Comfort Heat pumps use a 4-Way Reversing Valve for switching between efficient heating & cooling cycles & thus the 4-way valve plays an important role for defining the efficiency of a heat pump.

The traditional 4-Way Valve has a much higher internal leakage rate at low PD (0.2 MPa) than it at high PD (1 MPa). This reduces the amount of refrigerant involved in the refrigeration cycle, resulting in a reduction of system cooling capacity. At the same time, more refrigerant directly flow from the discharge side to the suction side to cause the compressor power consumption rise significantly. Both aspects have a huge impact on the system energy efficiency.

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To improve this situation, SANHUA has upgraded the 4-way valve (range covering the VRF/Inverter system) using special process to guarantee similar level of internal leakage rate at both high and low PD, making it possible for the systems to achieve

an average energy efficiency improvement of 7%.

SANHUA is also the first company in the world to introduce a 4-way valve dedicated for inverter systems.

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