

ACREX India 2019

28 February - 2 March 2019
Bombay Exhibition Centre, Mumbai



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ACRO NEWS SHOW DAILY

DAY 2 - 1 MARCH 2019

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



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Messages from our supporting organizations

"We are grateful for the opportunity to interact with our friends at ACREX, and we look forward to working together during a busy and productive year for the global HVACR and water heating industry".

Stephen Yurek,
President and CEO, AHRI

The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the trade association representing manufacturers of HVACR and water heating equipment within the global industry. AHRI's 320-member companies manufacture quality, efficient, and innovative residential and commercial air conditioning, space heating, water heating, and commercial refrigeration equipment and components. AHRI's certification

program is relied upon by regulators and the general public for accurate and unbiased evaluation of heating, water heating, ventilation, air conditioning, and commercial refrigeration equipment. Certified products are listed in an online directory at www.ahridirectory.org. AHRI is an industry powerhouse, providing our members with one voice, both domestically and abroad. *Visit them in Hall 1, #C27C.*

Innovations Galore @ACREX India'19

Innovation in the Field of HVAC at ACREX India 2019

Greenwave Products Pvt Ltd, exhibiting at Stall C-89 in Hall 2 at ACREX India 2019, are 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 Fouling which hinders the smooth flow of refrigerant, acts as an 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 is 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.

You can visit their stall C-89 (H-2) for further details and a demonstration of the product.

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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 come 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.

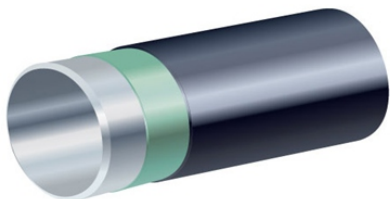
More details can be found at their stall L-106 in hall number 1.

Innovations Galore @ACREX India'19

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

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 disbondment:** GIP pipe shows a superior resistance to cathodic disbondment, 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 it 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.

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What are the sizes and ranges available?

GIP pipes are available in Size ½” to 16”, wall thickness upto 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?

Underground/concealed pipe lines: GIP pipe is the best solution to those

applications where fluid/gas pipelines 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.

Jindal Pipes Limited is showcasing their innovation at their Stall: M91 in Hall 1.

Partner Feature

The entire world of air conditioning

The entire world of air conditioning' – this is the TROX motto at the ACREX India 2019 (Hall no. 2, Stall no. B-23) where the company showcases its components and comprehensive system solutions for efficient ventilation and air conditioning systems. Come and see our products-from air handling units to air terminal devices as well as fire protection and smoke control solutions, for each type of building whether new or refurbished.

The TROX booth focuses on

- EUROVENT certified air handling units for pharma projects with clean room and pharma application of the LABCONTROL system
- Effective ADP's for offices and

high-end residence along with other HVAC projects, constant air volume controls with extend shafts for specific applications

- Live demonstration of tunnel ventilation dampers to support the upcoming metros and tunnel projects in India and globally

Mr. Nitin Pisal, the head of operations for India said, "Whether airport or hospital, bank or clean room laboratory-TROX provides not only components and units but complete solutions for each type of building, and then from a single source".

As a customer one would appreciate advantages that cannot be underestimated: fewer interfaces,

shorter installation time, maximum range of functions, sustainability, and internationally certified components that are ideally complementary to each other.

Discover the entire world of air conditioning!

TROX is a global leader in the development, production and sale of components, units and systems for the ventilation and air conditioning of rooms. With 27 subsidiary companies in 25 countries on five continents, 14 production facilities, and importers and representatives, TROX is present in over 70 countries. Currently, the TROX GROUP has around 4,000 employees worldwide and generates revenues of about EUR 500 million.



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Innovations Galore @ACREX India'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 overground 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 overground and environment hazardous. Pre-insulated pipes are already proven in the country in Oil Sector for more than 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 upto 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 overground 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 India'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. At Bonphul Air Products, it is considered a serious issue.

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.

With decreasing green cover and increasing automobile density, the level of oxygen in the outdoor air is gradually decreasing. This is leading to a whole host of health problems: some immediate and some long-term. Immediate effects might consist of people feeling breathless, and drowsiness, to start with. A long-term effect of oxygen deprivation is a loss of immunity and vitality. 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.

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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 in Delhi-NCR, a region infamous for its air pollution level, the current CEO of Bonphul, Mr. Prodyut Bora, was on 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.

In 2017, the journey of Bonphul began with a dream ahead to make 'Mountain-Fresh' air available for everyone.

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 will help us gaining a stronger foothold and also in expanding ourselves all across India."

At ACREX India 2019, you can visit Bonphul Air Products at Hall no. 2, Stall no. A-88

HVAC industry celebrates the ACREX Awards of Excellence powered by Daikin



Exhibitor Update

Indian OEMs Discover the Advantages of Smaller-Diameter Copper Tubes

MicroGroove Penetrates the Indian HVAC-R Market

According to the International Copper Association, smaller diameter copper tubes increasingly are used in air conditioning and refrigeration applications in South Asia. A round tube, plate fin heat exchanger provides superior drainage and is easier to clean than a microchannel heat exchanger with serpentine fins sandwiched between ribbon-like multichannel tubes.

“A MicroGroove heat exchanger is made from smaller-diameter copper tubes”, explains Avinash Khemka, Chief Manager at International Copper Association India. *“MicroGroove offers numerous advantages. MicroGroove is now emerging as preferred alternative to microchannel”.*

“MicroGroove usage continues to grow in India. It is a preferred tube for India because of its corrosion resistance”, Khemka continues. *“It is true that a decade ago larger-diameter copper tubes began to lose market share to aluminium. Although a low point was reached in 2014, the corrosion resistance of copper prevailed and copper heat exchangers are now recapturing market share. The trend back toward copper has been dramatic in the last four years, as end users of aluminium microchannel experienced many cases of failure and leakage. Now end users have an energy-efficient copper alternative”.* MicroGroove copper has emerged as an easy-to-maintain, reliable and durable option, well suited for the tropical climate of India.

“The industry is rapidly switching to MicroGroove as a practical, economical, eco-friendly alternative to Micro Channel”, Khemka emphasized.

HTCs and Star Labels

India is among the largest and fastest growing markets globally for room air conditioners (RACs) with about six million units sold in 2018. Increased infrastructural development, urbanization, higher standards of living and rising disposable income have all contributed to the heightened demand for air-conditioning.

Since the revision of Star Labeling by the Bureau of Energy Efficiency in 2018, AC manufacturers are specifying condensers and evaporators that transfer heat efficiently. Laboratory experiments show that heat transfer coefficients (HTCs) are highest for smaller diameter inner-grooved copper tubes compared to larger diameter tubes and smooth tubes. Higher HTCs result in more efficient RAC systems. These systems also use less material and less refrigerant.

MicroGroove coils made from smaller diameter inner-grooved copper tubes deliver an unprecedented combination of reliability and energy efficiency. They are more affordable than traditional designs because they use less material. Typical MicroGroove copper tube outer diameters are 7 mm, 6.35 mm (0.25 inch) and 5 mm.

New Production Lines Specialize in MicroGroove

Many coil manufacturers have added MicroGroove heat exchanger production lines to their plants or even built new facilities dedicated to the production of MicroGroove heat exchangers.

SPIROTECH (LU-VE Group) was among the first companies to adopt MicroGroove five years ago. Based in Bhiwadi, Rajasthan (about 60 km south of New Delhi), it makes MicroGroove heat exchangers for heat pumps, air

conditioners and refrigeration systems, including MicroGroove heat exchangers for R744 systems.

Indus (www.indusair.com) is another company that has invested in the manufacture of Microgroove coils. It recently split into two companies, including Indus in Dubai and Danvita India in Mumbai (www.danvita.com).

Danvita uses five millimeter “Micro Tube” copper tube coils that reduce refrigerant charge by one third compared to seven millimeter copper tube coils. According to the company, Micro Tube coils are a perfect substitute for multichannel heat exchangers because they are lighter, offer reduced refrigerant charge, and they are serviceable in the field.

Danvita’s Quantum™ Fin design provides high system efficiency. With its use of CFD technology and in-depth knowledge of fluid flow, Danvita developed an innovative fin surface that provides heat transfer capacities much higher than other fin surfaces using the same footprint. Danvita serves commercial, industrial and residential HVAC and refrigeration markets as well the mobile HVAC industry and it is well equipped with the latest technologies.

The Amber Group India (www.ambergroupindia.com/heat-exchanger/) recently collaborated with the International Copper Association India and Optimized Thermal Systems (Beltsville, Maryland, USA, www.optimizedthermalsystems.com) to optimize MicroGroove heat exchangers for an AC application that uses R32 as a refrigerant. OTS and ICA previously developed a series of educational webinars on the design and manufacture of MicroGroove heat exchangers.



“Coil makers and OEMs in India have been quick to recognize the role of MicroGroove in meeting efficiency standards and transitioning to eco-friendly refrigerants without compromising on reliability and durability”, says Nigel Cotton, MicroGroove Team Leader in

Brussels, Belgium.

ICA continues to support research projects leading to technical presentations at major conferences. Papers have been delivered on many topics, such as software programs for developing commercial heat

exchangers; reducing refrigerant volume for use with new refrigerants and natural refrigerants; and the use of smaller diameter tubes in heat pump applications.

For information on MicroGroove, also visit www.microgroove.net

ISHRAE and Team ACREX India 2019



In addition to being the feast to eyes, ACREX India 2019 team has put together a string of workshops and technical seminars that bring the enhancement of knowledge element for the

visitors. They will have access to attending high quality workshops and seminars on topics that are related to the current trends and practices of the HVAC & R field.

Mr. C. Subramaniam
National President, ISHRAE



India's aggregate cooling demand is poised to grow 8 times over the next 20 years. This is happening because of growing urbanization, increased aspirations, need for better thermal comfort conditions, worsening ambient air

conditions, increased industrialization and a fast-growing economy. All this will add to our energy bills as HVAC consumes the largest chunk of electricity in buildings.

Mr. Vishal Kapur
National Past President, ISHRAE



February 28, 2019 has marked the commencement of the largest ever ACREX India, in the heart of the commercial capital of India-Mumbai! This is the time when all that matters are to witness the showcasing of the latest products,

technology, solutions, capabilities, knowledge-spread across various identified segments in Components & Services, Ventilation, Air-conditioning, Clean Rooms, IAQ & Building Automation.

Mr. Kapil Purandare
Convener - ACREX India 2019



With the recent release of the draft National Cooling Action Plan by the Ministry of Environment, Forests and Climate change, there is a defined focus by the government on the cooling industry to encourage, yet regulate, its sustained growth and

harmonious development. Renewables, energy efficiency and indoor environment quality will drive new opportunities and unlimited potential for the growth of our Industry.

Mr. Vikram Murthy
National President Elect, ISHRAE



“The HVAC profession has advanced the way that buildings are planned, designed and occupied. Harnessing and adapting new technologies, such as those which you will experience at ACREX India 2019,

enables us to create a future where the built environment is healthier, more comfortable, more energy efficient, producing a more sustainable world.

Mr. Krishnan V
Chairman ACREX India 2019, Presidential Member, ISHRAE



“The Indian HVAC & R market is quickly racing towards a size of more than USD 7,500 Million in the next five years making it imperative for every manufacturer in the international market to vie for a space in the Indian sub-continent. ACREX

India 2019 creates a valuable platform for all connected to the HVAC & R industry to reach relevant stakeholders and decision makers.

Ms. Sonia Prashar
Chairperson of the Board and Managing Director, NuernbergMesse India



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