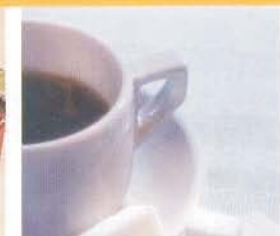
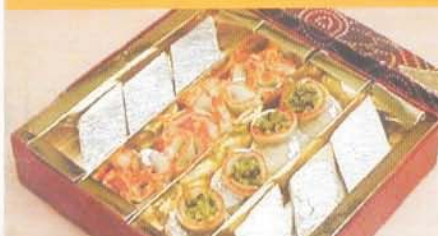


INDION[®]

Solutions for the SUGAR Industry



Ion Exchange (India) Ltd. is the leader in speciality solutions for the sugar industry. These superior, high performance products and processes are widely used in solid and liquid sugar manufacture.





Ion Exchange (India) Ltd. offers sugar mills a wide range of products, processes and services that have been specially developed for diverse applications in the processes of liquid and solid sugar manufacture. These, together with our innovative sugar remelt decolourising process and total water management, provide total solutions to sugar mills and refineries enabling them to achieve significant competitive advantage.

Products

- INDION Mill Sanitation Chemicals
- INDION Sugar Enhancer
- INDFLOC Flocculants
- INDION Scale Inhibitors
- INDION Viscosity Reducers
- INDION Colour Precipitant
- INDION Flotation Aid
- INDION Boiler Water Treatment Chemicals
- INDION Bagasse/Fuel Additives
- NORIT Activated Carbon
- INDION Cooling Water Treatment Chemicals

Processes

- INDION Sugar Remelt Ion Exchange Decolourising Process
- NORIT Activated Carbon for Sugar Remelt Decolourisation
- INDION Total Water Management – complete range of water and waste water treatment solutions to meet process quality and effluent discharge norms, waste water recycle for water conservation, and consultancy for total water management.

Services

Comprehensive technical services through trained and experienced engineers of our countrywide service network.

INDION

Mill Sanitation Chemicals

These are specifically developed organic biocides for improved sanitation/hygiene in sugarcane juice and sugar mills. They are vastly superior to conventional chemicals like ammonium bifluoride, bleaching powder and other halogen compounds.



Benefits

- Effective control of biological growth in sugar juice.
- Prevention of loss of vital sugar by avoiding inversion.
- Improved sanitation of mill surroundings.

INDION

Sugar Enhancer

A specially developed blend of organic compounds to extract and recover more sugar from the bulk of the cane milling process.

Benefits

- Extraction of more sugar from bagasse.
- Steam economy.
- Increase in throughput of clarifier and increase in evaporator efficiency.

INDFLOC

Flocculants

These water-soluble polyelectrolytes of high molecular weight have high flocculating power towards suspended solids. Designed to excel in critical areas of composition, molecular weight distribution and ionic charge, they provide efficient clarification of sugarcane juice and are available in solid, liquid and emulsion forms.

Benefits

- Increased throughput from existing equipment.
- Reduced capital expenditure on clarifiers.
- Lower retention time, lower heat loss and minimum sugar inversion.
- Reduced lime consumption and minimum decomposition.

INDION®

Scale Inhibitors

These water-soluble surfactants have high dispersing power towards inorganic salts. In the evaporators, they inhibit scale formation by modifying the crystals, improving heat transfer and crushing capacity between cleanings.



Benefits

- Improved heat transfer through clean evaporating surfaces.
- Reduced steam/fuel consumption.
- Minimum number of cleanings per season.
- Prevention of over-loading of vacuum pans.
- Enhanced equipment life.

INDION®

Colour Precipitant

This is a highly effective cationic polymer designed for improving colour of sugar remelt/syrup in sugar mills and sugar refineries. It also removes certain high molecular weight impurities present in sugar remelt and syrup. Additionally, it helps to convert impurities into primary flocs in the subsequent process of phosflotation.

Benefits

- Removes certain colouring matter from sugar remelt/syrup.
- Improves colour of sugar remelt/syrup.

INDION®

Flotation Aid

This is a high efficiency polyelectrolyte designed for improving clarification and filtration of sugar remelt/syrup in sugar mills and sugar refineries. It is effective over a wide range of pH and has great flexibility in coping with fluctuations in operating conditions because of its remarkable flotation properties.

Benefits

- Lower retention time.
- Reduced mud volume.
- Low pol content in filtrate.
- Increased throughput from the clarifier.
- Improved sugar remelt/syrup quality.
- Higher filtration rates.

INDION®

Viscosity Reducers

These organic chemicals have been exclusively developed for lowering the viscosity of massecuites in the pan. By reducing surface tension, they improve boiling efficiency, crystallization, centrifugation and exhaustion of molasses — all resulting in improved sugar crystals and sugar recovery.



Benefits

- Improved fluidity.
- Reduced boiling time.
- Improved circulation.



INDION®

Boiler Water Treatment Chemicals

Specially developed for sugar boilers, these are boiler water treatment chemicals with multi-purpose formulations containing hardness treatment chemicals, instant oxygen scavenger, corrosion control agents, polymeric sludge conditioners and sequestrants to provide trouble-free operation and a clean boiler.



Benefits

- Economical and easy to handle.
- Prevention and removal of deposits.
- Protection of system from corrosion.

INDION®

Bagasse/Fuel Additives

These are specially developed fireside chemicals for sugar boilers having multi-purpose formulations to reduce problems like clinker formation and deposits, resulting in higher boiler efficiency.

Benefits

- Increased combustion efficiency.
- Reduced deposit formation.
- Reduction of unburnts.
- Reduced frequency of soot blowing.
- Reduced fuel consumption.
- Elimination of glassy scales.

INDION®

Cooling Water Treatment Chemicals

The cooling tower, an integral part of the cogeneration plant, requires to be run at maximum efficiency with low operating cost. Ion Exchange India are specialists in state-of-the-art technology for cooling water treatment chemicals.



Benefits

- Prevention of cooling water related problems such as corrosion, scale fouling and microbial growth in cooling water systems.
- Our cooling water treatment programmes ensure consistency in heat transfer at the metal surface.

INDION®

Water and Juice Analysis Kit

A specially designed test kit to determine the scaling and corrosion potential of water and juice. It assists in monitoring boiler/cooling water, scale inhibition and other chemical treatment programmes.

Benefits

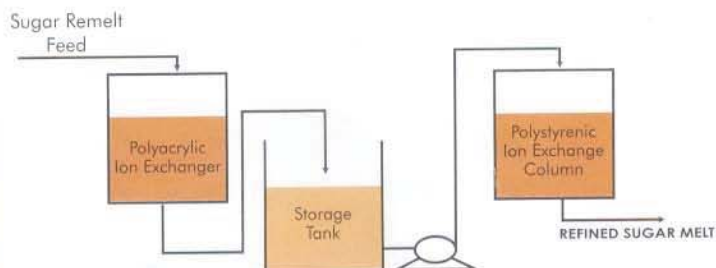
- Quick, easy analysis of scale forming components such as CaO, SO₄, SiO₂, PO₄, total hardness, sulphite, pH etc.



INDION®

Sugar Remelt Ion Exchange Decolourising Process

Our INDION ion exchange sugar refining process is designed to decolourise sugar remelt after pretreatment methods like phosflotation or carbonation. It operates by passing the pretreated sugar melt through a combination of specially suited ion exchange resin columns. These resins have the capacity to adsorb the colour precursors. The exhausted resin bed can be effectively regenerated using sodium chloride salt solution.

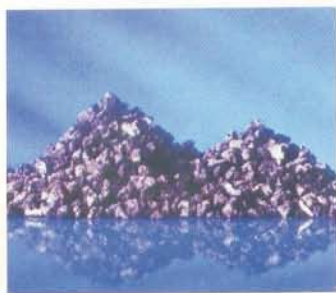


Benefits

- Good colour removal capacity.
- High efficiency.
- Good adsorption.
- Works at higher mechanical and osmotic pressure, hence longer life.
- High resistance to fouling.
- Simple and economical.

NORIT Activated Carbon

In liquid sugar production, NORIT activated carbon is used for removal of colour, producing the crystal clear syrups demanded by the food and beverage industries. In addition to decolourising sugars, activated carbon also removes taste and odour compounds by absorption. Activated carbon may be used either alone or in conjunction with other decolourising agents and systems.



Benefits

- Crystal clear syrup.
- Removal of unwanted taste and odour.

INDION®

Total Water Management

Indicative of our customer-centric, solution-oriented approach, Ion Exchange India offers the sugar industry synergistic solutions that address the need for quality products for production processes as well as water and waste water treatment/recycle – total solutions.

The Sugar Industry & Water

The sugar industry is in the process of installing cogeneration plants to produce power for grid supply in rural areas. The by-product bagasse is fully utilised as fuel for the boiler and turbine system to generate power. The high-pressure boiler and turbine form the heart of the cogeneration sugar plant. Organic and inorganic material present in surface water can lead to scaling, corrosion and fouling of boilers and turbine blades. It is thus extremely critical that the quality of boiler feed water meets requirements.

The industry also requires huge volumes of water for its production processes. With increasing water scarcity, availability of water is becoming a problem for the industry, necessitating good water management and water conservation practices such as recycle and reuse of condensate and waste water, water harvesting, and desalination. Indeed, the sugar and associated industries (such as distilleries and ethanol plants) are being compelled towards 'zero discharge' of liquid effluents into surface waters.

Ion Exchange India brings to the sugar industry the entire range of water and waste water treatment/recycle solutions—filters, clarifiers, demineralisers, softeners, reverse osmosis plants, ion exchange resins, membranes, instruments...all backed by the largest service network in the water treatment industry in India.

Water Treatment in Cogen Sugar Plants

Apart from effectively removing inorganic constituents from surface water using ion exchange demineralisation and reverse osmosis processes, there is a need to address the problem of non-reactive silica or colloidal silica as well as the TOC in surface water. Conventional clarifiers and the improved filtration technology available with Ion Exchange India such as ultra filtration and nano filtration help reduce the problem by about 95%.

Sugarcane Water Treatment

Sugarcane contains 60–70% water, generated in the form of vapour condensate which is rich in organics. This vapour condensate contains large amounts of organic impurities and therefore cannot be utilised as process water. Our INDION condensate polishing unit will effectively remove these high organics. After treatment the condensate water can be reused in the process of macerations and juice heating; it can also be used as a substitute for demineralised water in boilers and cooling towers.

Waste Water Treatment & Recycle

The waste water generated from various production processes is rich in organics and dissolved solids. A well designed effluent recycle scheme (based on waste water quality) comprising latest filtration & separation media and processes such as ultra filtration, activated carbon bed and reverse osmosis, will reduce 70–80% of the effluent load and enable reuse of the water.

Water Management Consultancy

We offer consultancy for water management to enable selection of the right treatment to deliver the required water quality for process, meet discharge norms as well as conserve water through recycle.

Ion Exchange India — a partner you can trust

For decades we've catered to the special needs of the sugar industry with our wide range of high quality INDION/INDFLOC products and processes, which together offer total solutions to the industry. The result of continuous R & D, they are delivered with guaranteed schedules and backed by excellent support of an all-India dealer network. We provide our customers with extensive technical services too, right from recommending the solution best suited to specific needs to field trials and troubleshooting.

So when you have a need, you can trust Ion Exchange India to provide just the right solution for you.

To the best of our knowledge the information contained in this publication is accurate. Ion Exchange (India) Ltd. maintains a policy of continuous development and reserves the right to amend the information given herein without notice. Please contact our regional offices for current product specifications.

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