

Volume No. 79 May 2012



# IEI NEWS

A House Journal of Ion Exchange (India) Ltd.



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Exchange  
and  
Membrane  
Processes**

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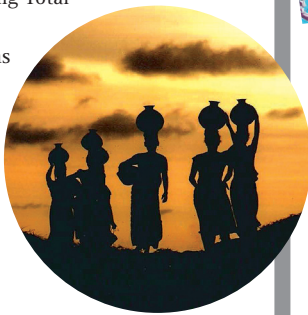
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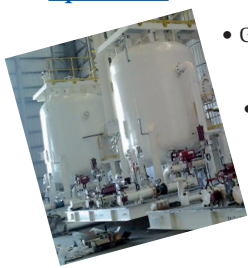
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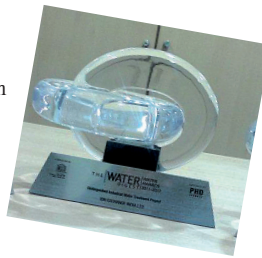
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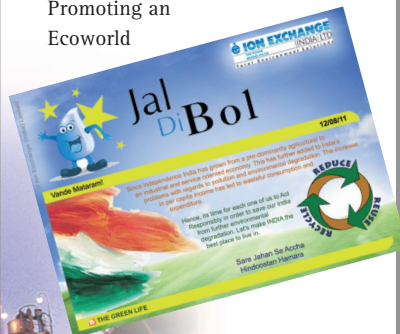
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# Innovative Applications of Ion Exchange and Membrane Processes

Our mission to offer customers complete, value-added solutions had led us to form verticals that focus on processes and needs specific to our customers' industries and provide a total package of solutions for their particular requirements. It is this mission that impelled us to extend our total water management capability to products for process applications too, to help our customers improve process efficiencies and product quality and performance. Thus, we developed process chemicals for the paper, sugar, oil refining, metal and mineral processing industries and we have innovatively employed ion exchange and membrane systems for process applications in many industries. We spotlight here some recent developments in applying ion exchange and membranes processes for speciality applications.

# Applied Ion Exchange

## Aloe vera juice purification

Aloe vera is considered nature's miracle plant because of its many medicinal properties and the demand for aloe vera products is increasing sharply. However, while processing aloe vera, particularly for oral consumption, care must be taken to remove the aloin from it, as this substance acts as a laxative and can cause gastric problems. Our polymeric adsorbent can be effectively used in the purification of aloe vera juice for removal of aloin.



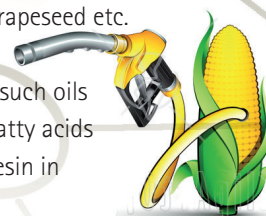
## Removal of phenol from hydrochloric acid and of nitroresol from waste water, in the agro-chemical industry

Ion exchange can be effectively applied to reduce phenol in hydrochloric acid to <math><50\text{ ppm}</math>. Instead of disposing it, the hydrochloric acid can be sold as commercial grade.

Another application is removal of nitroresol, a benzene compound generated during production, which contributes to COD levels in the effluent and is also non-biodegradable. Its removal, using ion exchange, considerably reduces the COD load on the effluent treatment plant, bringing treatment costs down.

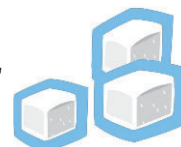
## Bio-diesel manufacture & purification

Various kinds of oil – palm, corn, rapeseed etc. are used as feedstock in the manufacture of bio-diesel. Typically such oils contain high triglycerides and free fatty acids (FFA). The use of our ion exchange resin in bio-diesel manufacture and purification improves conversion of feedstock into finished product and consequently the cost-effectiveness of the process, and results in high purity of the end product. It is also more eco-friendly as it eliminates the use of sulphuric acid as well as substantially reduces water consumption and therefore, generation of waste water.



## Decolourising of sugar

The colour range of sugar acceptable to most countries is <math><50\text{ ICUMSA}</math>. However, the phosflotation process for clarification yields colour levels of 100 to 150 ICUMSA. Thus there is a need for decolourisation of melt subsequent to clarification to achieve the desired colour. Our ion exchange sugar decolourisation process operates by passing pre-treated sugar melt through a combination of



Other proven speciality applications offered to our customers include:

- N-methyl pyrrolidone purification
- Fluoride removal in aluminium industry
- Production of tartaric acid
- Production of Vitamin C
- Recovery of zinc from rayon spin bath
- Chromic acid recovery
- Recovery of streptomycin
- De-ashing of dextrose
- Conversion of sodium gluconate to gluconic acid
- Conversion of sodium silicate to silica solution
- Formaldehyde purification
- Glue de-ashing
- Purification of glycerine, glycerol, glycol and glyoxal
- Iron removal from chromic acid
- Mercury removal in chlor alkali industry
- Nickel removal in electroplating industry
- Sorbitol de-ashing

specially suited ion exchange resin columns which have the capacity to adsorb the colour precursors. The exhausted resin bed can be effectively regenerated using sodium chloride salt solution. On crystallisation, the final colour of the sugar is in the range of 20 – 40 ICUMSA.

Using the ion exchange process for production of high quality refined sugar helps fetch much better prices, eliminates the need of imports for use in the confectionery, beverage and pharmaceutical industries and opens up avenues for exporting sugar of EC1 and EC2 quality. Also, sugarcane being a seasonal crop, the crushing duration is limited to 150–200 days and sugar mills are idle for the balance period. They can now utilise their capacity for refining sugar even during the off-season.

### Brine softening in the chlor alkali industry

In the chlor alkali industry, the expensive membranes used in the membrane cell-based manufacturing process are highly susceptible to fouling by calcium and magnesium present in the brine. By reducing these in the brine to acceptable limits, our resin serves as an effective insurance against the fouling of membrane cells, providing a very valuable solution to the manufacturers.

### Mono ethylene glycol purification in the petrochemical industry

Mono ethylene glycol (MEG) is a raw material in the manufacture of synthetic fibres. MEG containing iron, aldehydes and acetic acid as impurities can be removed using ion exchange resin.



## Membrane Applications

### Oily waste treatment in the auto industry

Automobile-component manufacture uses significant quantities of metal-working fluids. These oil-water emulsions are used in precision machining, for lubrication, cooling, cleaning etc., and therefore metal-working facilities generate large amounts of oily waste water. Water scarcity and stricter disposal regulations have resulted in an increasing trend towards waste water reuse, and away from conventional physico-chemical treatment processes which increase TDS levels in the effluent, making it difficult to treat. Thus, membrane filtration is now playing a prominent role in the treatment of oily wastes because of its many advantages: chemical additives are not required to destabilise the emulsion, high COD removal efficiencies are achieved, and treatment systems are quite compact, automated and easy to operate. Additionally, membrane permeate can be reused as make-up water for emulsification or discharged directly into a receiving water body.



Ion Exchange has supplied a 75 m<sup>3</sup>/d capacity ultra filtration plant using tubular membranes to General Motors at Talegaon near Pune in Maharashtra. The system removes free oil using an oil skimmer and magnetic paper-band filter followed by emulsified oil separation using ultra filtration.

### Sea water softening for soda ash manufacture, in the chemical industry

In the Solvay process for soda ash manufacture, as a first step, brine is prepared by dissolving salt in soft sea water. Traditionally, calcium and magnesium (together termed as hardness) in the sea water are removed by adding equivalent amounts of lime and soda ash. Since sea water has a total hardness of 7000 ppm, corresponding amounts of lime and soda ash have to be dosed and so operating costs are high. Nano filtration is a low-pressure membrane separation process that removes the hardness from sea water, generating considerable savings in operating cost.



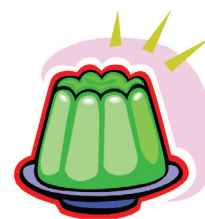
We have successfully installed a 2 x 32 m<sup>3</sup>/h nano filtration plant using spiral-wound membranes for sea water softening at Gujarat Heavy Chemicals Ltd., Veraval, Gujarat. The pretreatment plant comprises lamella clarifier and two stage filtration. Total hardness of approx. 7000 ppm in the influent sea water is reduced to approx. 600 to 700 ppm, as CaCO<sub>3</sub>, in the treated water. The

process is much more economical and ideal for manufacturers of soda ash located near the coast, where sea water is available in abundance.

### Gelatine concentration and purification in the F&B industry

Ultra filtration permits concentration of gelatine from 2-3 per cent to approx. 20 per cent w/w total solids while allowing salts to pass through to the permeate stream. Since approx. 80 per cent of water is removed, thermal energy

required for further evaporation is also significantly reduced. Further, de-ashing takes place simultaneously, so the cost of the purification process also reduces, as the ion exchange stage required earlier is eliminated.



The ultra filtration plants use spiral-wound membranes and, because the application is in the food industry, are in sanitary design and use stainless steel pressure tubes, piping and fittings. Our clientele includes Sterling Gelatin, Vadodara and an export project in Iran.

### Brine recovery in the textile industry

The colour removal unit employs ion exchange process and is regenerated using brine, which can be recovered for reuse. We have supplied a 45 m<sup>3</sup>/h plant using spiral-wound nano filtration membranes for recovery of brine from regeneration waste from the colour removal unit.



# Engineering Contracts



## Energising Solutions

### For GMR Energy

Ion Exchange won a prestigious order, from GMR Energy Ltd., for complete water solution for their upcoming 2 x 685 MW thermal power station in Raipur, Chhattisgarh. A unique feature of this power plant is that waste water will be treated and processed through mixed bed units to produce high purity water for power generation. Our scope is for design, supply, erection and commissioning of the entire water management for the power plant and comprises:

- Pretreatment plant, 2 x 2000 m<sup>3</sup>/h, using high rate solids contact clarifier
- Cooling water treatment system with side stream filtration (9 x 220 m<sup>3</sup>/h auto valveless gravity filters)
- Effluent treatment plant followed by recycle to handle the entire waste water from the power plant and recycle it to process, to produce high quality mixed bed water. The 2 x 52 m<sup>3</sup>/h plant incorporates high rate solids contact clarifier, ultra filtration, reverse osmosis and mixed bed demineralisation.

The project includes complete LP piping, pumping system, complete civil work, high tension electrical work and complete automation. The client's consultant for this project is DCPL Mumbai.

### Nabha Thermal Power

L&T Power awarded Ion Exchange the contract for the complete water solution for their 2 x 700 MW Nabha thermal power project at Rajapura in Punjab. The client's consultant for this project is L&T Sargent & Lundy, Faridabad.

The integrated water management plant consists of:

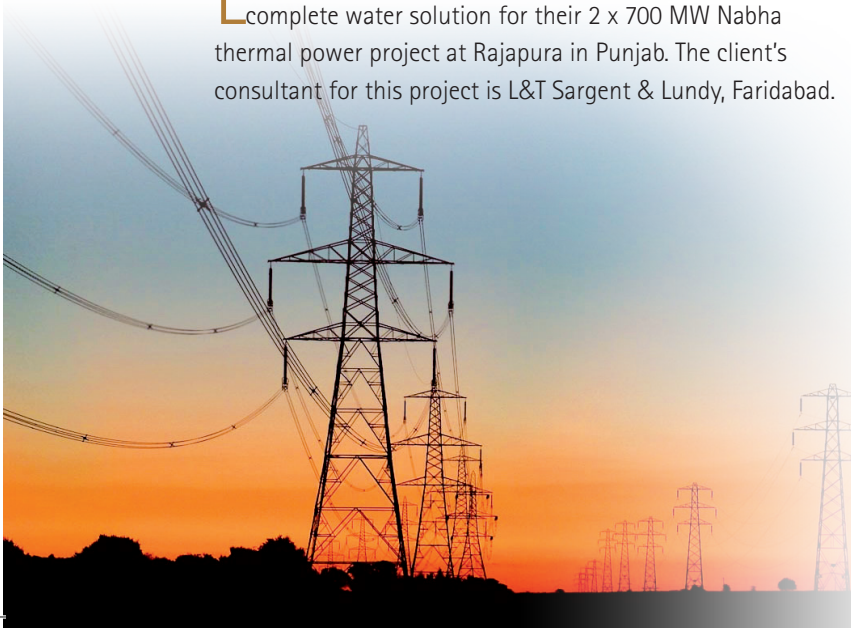
- Pretreatment, 2 x 2366 m<sup>3</sup>/h, using high rate solids contact clarifiers; it also incorporates a potable water plant of 2 x 25 m<sup>3</sup>/h capacity
- 3 x 110 m<sup>3</sup>/h demineralisation followed by ultra filtration
- Cooling tower blowdown is recycled after treatment. The 3 x 150 m<sup>3</sup>/h plant incorporates lamella clarifier, multi-grade filter, ultra filtration and reverse osmosis
- Condensate water treatment with 6 x 955 m<sup>3</sup>/h condensate polishing unit
- Side stream filtration with sixteen auto valveless gravity filters, capacity 195 m<sup>3</sup>/h.
- The project also consists of a complete cooling water treatment system.

### Nava Bharat Ventures

Nava Bharat Ventures Limited (NBV) has over three decades of business operations in power generation, ferro alloys, mining and agri-business, in India, South East Asia and Africa. In India, the company has a ferro alloy plant manufacturing manganese alloy at Paloncha, Andhra Pradesh and another manufacturing chromium alloy at Kharagprasad, Dhenkanal district, Odisha. It has also established pit-head, coal fired thermal power plants at Paloncha and Kharagprasad and biomass power plants at Dharmavaram and Samalkot, East Godavari district.

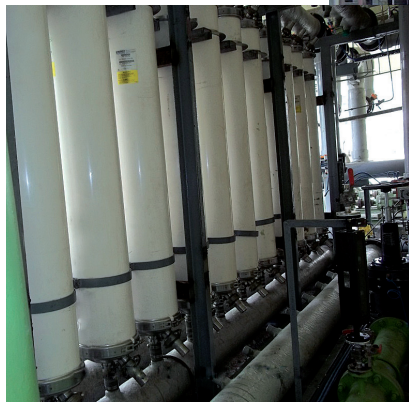


Good customer rapport with Nava Bharat Ventures resulted in an order for a 112 m<sup>3</sup>/h filtration and 2 x 56 m<sup>3</sup>/h demineralisation plant for their upcoming 150 MW power plant at Paloncha. This order follows a long line of contracts awarded to us by this client over the past 15 years. These include a 2 x 12 m<sup>3</sup>/h demineralisation plant and 50 m<sup>3</sup>/h cooling water recycling plant with 85 per cent recovery supplied to their Paloncha unit and a 2 x 20 m<sup>3</sup>/h demineralisation plant to their Dhenkanal unit.



## Commissioned – Complete Water System at Parichha Thermal Power Station

Our expertise in total water management and proven track record led Reliance Energy Ltd., EPC contractor for the 2 x 250 MW Parichha Thermal Power Station of Uttar Pradesh Rajya Vidyut Utpadan Nigam, to entrust us with the design, engineering and construction of the complete water system which included 2 x 1210 m<sup>3</sup>/h pretreatment, 2 x 85 m<sup>3</sup>/h demineralisation and ultra filtration, and cooling water treatment systems. Civil construction was undertaken by Reliance, while civil design and engineering was by Ion Exchange.



Ultra filtration stream



High rate solids contact clarifier



Mixed bed exchanger

### Dishergarh Power Supply Corporation

We will be providing a complete water solution for Dishergarh Power Supply Corporation, for their 12 MW power plant renovation. The order, from Shristi Infrastructure Development Corporation Ltd., the EPC contractor, consists of 30 m<sup>3</sup>/h demineralisation plant and 80 m<sup>3</sup>/h effluent treatment plant.

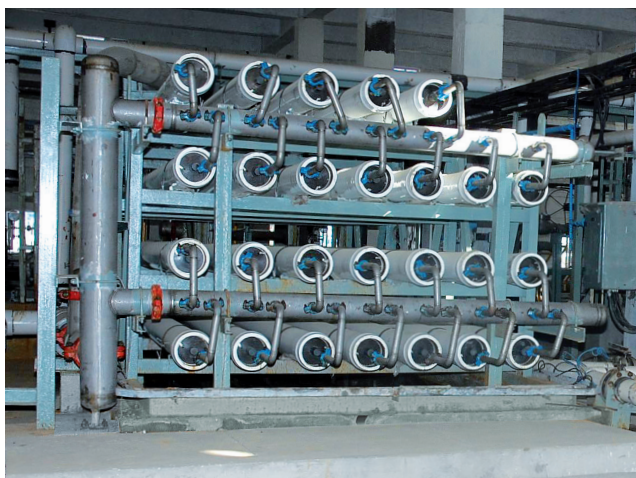
### Spark Energy

We were awarded the complete water treatment contract for Spark Energy's 2 x 12.5 MW biomass based power plant at Ahmednagar. This contract consists of high rate solids contact clarifier, ultra filtration, reverse osmosis and mixed bed. The scope includes design, engineering, supply, erection and commission of plant on turnkey basis. Avant Garde, Chennai are consultants for this project.



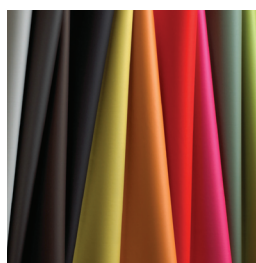
## Commissioned – SWRO Desalination Plant for Simhapuri Power Ltd.

Sea water reverse osmosis (SWRO) desalination plant executed for Madhucon Projects, Hyderabad, at 2 x 135 MW thermal power project of Simhapuri Power Ltd., Nellore, Andhra Pradesh. Our scope of work included 2 x 1400 m<sup>3</sup>/h pretreatment, 3 x 50 m<sup>3</sup>/h reverse osmosis and 2 x 60 m<sup>3</sup>/h mixed bed.



## To the Defence

Iron removal filters of various capacities (100 m<sup>3</sup>/h, 75 m<sup>3</sup>/h, 50 m<sup>3</sup>/h and 15 m<sup>3</sup>/h) with chemical dosing systems, for MES Siliguri, West Bengal. These are based on our patented INDION iron specific resin.



## Weaving Results

Iron Exchange Waterleau won an order from Indo Rama Industries Ltd. (synthetic fibre sector), for their new manufacturing facility at Baddi, Himachal Pradesh that will produce Spandex synthetic fibre used in stretch fabrics. The contract is for supply, erection and commissioning of a 100 m<sup>3</sup>/d effluent treatment plant with lamella clarifier and sequential batch reactor, 175 m<sup>3</sup>/d effluent recycle system with multi-grade filter, activated carbon filter, ultra filtration and reverse osmosis, and sludge management with filter press. Indorama, based in Indonesia and Thailand, belongs to the Lohia group and are the largest integrated manufacturers of polyester, PET and PTA, with 15 manufacturing facilities across Asia, Europe and USA.



## Fuel Efficient

Toyo Engineering India Ltd. awarded us the contract for the first complete zero liquid discharge project in the downstream petrochemical segment in India. The order is for supply, erection and commissioning of 3000 m<sup>3</sup>/d zero liquid discharge with effluent treatment and recycle plants, multiple effect evaporator and sludge management. The project is for Indian Synthetic

Our mining process chemical (speciality flocculant) for the aluminium refinery process at Hindalco, Muri, Jharkhand has successfully replaced our competitor's treatment of several years and our treatment programme is running satisfactorily.

HMEL Bhatinda Refinery awarded us the order for diesel lubricity improver additive. This is added to finished fuel (diesel) before its sale in the market, to meet lubricity specifications.





Rubber Ltd. (ISRL), Panipat, Haryana. ISRL is a joint venture between Indian Oil Corporation, Marubeni Japan and TSRC Corporation, Taiwan. Toyo Engineering India Ltd. is the LSTK contractor and Uhde India Pvt. Ltd. is the project management consultant. The order includes operation and maintenance.

Deepak Fertilizers and Petrochemicals Corporation Ltd. awarded to us the order for 20 m<sup>3</sup>/h ultra filtration unit followed by demineralisation plant. Our water treatment system will be installed at their Talaja K8 plant which was set up four years ago. The treated water will be used for their process requirements as well as for boiler application.



## Purity Counts

Lanco Solar is setting up the first integrated solar cell manufacturing unit at Rajnandgaon, Chhattisgarh. It will be the first to house the raw

material (polysilicon) facility, followed by solar cell and then final product i.e. the module, under one roof.

Ion Exchange was awarded the order for 2 x 20 m<sup>3</sup>/h high purity water system for Lanco Solar's polysilicon project. The scheme consists of pretreatment with sand filter, ultra filtration followed by reverse osmosis and final purification by high flow electrodeionisation; the system will produce water for washing polysilicon.

The client's consultant for the project is Fluor Daniel, Delhi.

Commissioned for Gland Pharma, Hyderabad high purity water generation plant as per USP 33. The scheme includes ultra filtration, reverse osmosis, ultra violet and electrodeionisation systems.



Commissioned, at Solar Semiconductor, Fab City Hyderabad, plant for generation of high purity deionised water, including ultra filtration, two-stage reverse osmosis and electrodeionisation. The plant also includes distribution system with SS piping, tanks (with nitrogen blanketing), distribution pumps as well as disinfection with two stage UV and non-regenerable mixed bed units.



## Good Chemistry

Ion Exchange's proven capabilities, first mover approach and excellent customer rapport won us preferred vendor status at Grasim Industries, a flagship company of the Aditya



Birla Group and the award of three prestigious orders for demineralisation plants for their caustic soda projects at Vilayat (500 TPD) in Gujarat, Patalganga (250 TPD) in Maharashtra and Renukoot (250 TPD) in Uttar Pradesh. Vilayat and Patalganga are greenfield projects and Renukoot a brownfield project.

Considering the raw water characteristics, the plants, 102.5 m<sup>3</sup>/h, 50 m<sup>3</sup>/h and 62.5 m<sup>3</sup>/h respectively, are all specially designed with layered bed cation and anion columns to reduce the chemical consumption; this in turn will further reduce the load on the effluent treatment plants. The technical scheme for all the three demineralisation plants is multi-grade filter, activated carbon filter, layered bed cation, degasser, layered bed anion and mixed bed. UHDE is the client's engineering consultant for these projects.

The Aditya Birla Group is the world's largest producer of viscose staple fibre (VSF) and group company Grasim is India's largest producer of rayon grade caustic soda, a key ingredient in VSF.



## Smooth Ride

Ion Exchange was awarded the total water treatment package by SITSON India for their Apollo Tyres project which includes a 2 x 7.5 MW power plant. The package consists of 2 x 42 m<sup>3</sup>/h reverse osmosis-mixed bed and 10 m<sup>3</sup>/h effluent treatment recycle plant (high rate solids contract clarifier-ultra filtration-reverse osmosis).

### Commisioned for Maruti Suzuki, Manesar, Haryana

Following numerous projects awarded by Maruti Suzuki to Ion Exchange for water, effluent and sewage treatment, including the first ever effluent recycling plant based reverse osmosis in the automobile sector, Ion Exchange was once again selected for this total water and environment management contract for the expansion project at Manesar, Haryana.



3600 m<sup>3</sup>/d effluent treatment



370 m<sup>3</sup>/d sewage treatment



3600 m<sup>3</sup>/d recycle plant

We have handed over to Toyota Kirloskar, Bengaluru the 2 x 50 m<sup>3</sup>/h water treatment plant (ultra filtration, reverse osmosis and SWIFT demineralisation) to produce high quality water



## Concrete Ties

Manikgarh Cement of the B.K. Birla Group entrusted Ion Exchange with the demineralisation and ultra filtration units of 20 m<sup>3</sup>/h although the pretreatment plant

at the same site was installed by another vendor. The cement plant is located at Chandrapur in Maharashtra and the treated water from the demineralisation plant will be used for boiler application.

Ultratech Cement Ltd. is coming up with captive power plants at Rawan, Chhattisgarh (15 MW) and Rajashree, Karnataka (2 x 25 MW). The client once again awarded us the order, at both sites, for 22 m<sup>3</sup>/h demineralisation plant with ultra filtration and reverse osmosis for boiler feed water, as well as for 15 m<sup>3</sup>/h demineralisation plant for their existing cement plant at Tadipatri, Andra Pradesh.

# Delivering Total Water Solutions in India's Heartland



## In West Bengal



We received a repeat order from Public Health Engineering Department, West Bengal for a 2 m<sup>3</sup>/h truck-mounted disaster management unit for drinking water. Treatment consists of ultra filtration and reverse osmosis followed by ozonation for disinfection. The unit is able to treat ground or surface water that is available at the time of natural calamities like floods, earthquakes etc. The unit also incorporates a packaging machine for packing water in 500 ml pouches for distribution. The containerised skid mounted unit is powered by a DG set mounted in the container and can also be operated by an external power source.

## Uttaranchal



We have supplied 499 iron removal hand pump attachments to the Uttarakhand Jal Sansthan in

Dehradun, Uttaranchal. The user-friendly units, with a capacity of 10 to 15 l/minute, are based on resin technology and provide continuous and consistent quality of water, reducing the iron content to 0.3 ppm, the level recommended by WHO.

## ...and Haryana

We have installed a 50 m<sup>3</sup>/h continuous sand filter at the water works in Israna village, Panipat, Haryana to provide drinking water to the villagers – the first such plant to be put up in Haryana.

We also received an order for a 50 m<sup>3</sup>/h continuous sand filter, with operation and maintenance, for the Saraswati tirath. Located in Pehowa town, 26 kilometres from Kurukshetra, Haryana this is a place of holy pilgrimage dedicated to Saraswati, the Vedic river. Noted for its

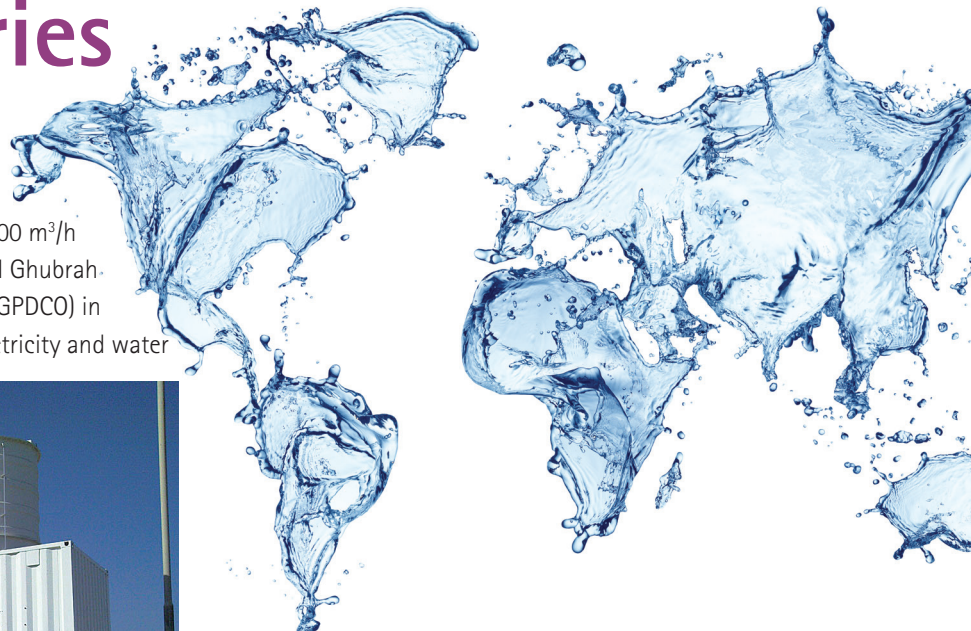


association with *Pind Daan* or offerings made to departed souls, the Saraswati tirath is a huge tank where thousands of people come to offer *Shraadh* for the souls of their ancestors. The continuous filter is being installed to treat the polluted water.

# GCC Countries

## For Al Ghubrah Power and Desalination, Oman

Ion Exchange, Hamriyah, UAE supplied a 100 m<sup>3</sup>/h brackish water reverse osmosis plant to Al Ghubrah Power and Desalination Company SAOG (GPDCO) in Muscat, Oman. GPDCO in Oman supplies electricity and water



to Oman Power and Water Purchase Co. SAOC (PWP) which is re-sold to the distribution and supply companies connected to the main grid and the Ministry of Housing, Electricity and Water (MHEW) respectively.

Ion Exchange's scope covered design, supply, installation and commissioning (including required civil works) of the plant which is installed downstream to the existing thermal desalination plant.



## For Amal Steam Project of PDO Oman

Ion Exchange, Hamriyah, UAE was successful in obtaining a contract from Worley Parson Oman Engineering (WPOE) for the Amal Steam Project of Petroleum Development of Oman for the design, supply, erection and commissioning of a fully automated water treatment plant to soften high TDS water. Net capacity of the plant is 6500 m<sup>3</sup>/d.



The high TDS water softening plant will produce water to meet the specifications of feed water quality of the once through steam generator (OTSG). The scope includes nutshell filters with clean-up pumps for removal of traces of oil and strong and weak acid cation ion exchange softeners in series complete with chemical regeneration system and associated mechanical, electrical and instrumentation equipment.



Packaged sewage treatment plant (200 m<sup>3</sup>/d fluidised media reactor) supplied to Gulf Petrochemicals Services & Trading (GPS) for the camp (1000 – 1200 people) located at Mukhaizna site where GPS was executing a project for Occidental Oman. The plant was delivered to site within three months and its erection and commissioning completed in 40 days

## In the USA



Ion Exchange LLC, USA supplied a complete high purity water system comprising reverse osmosis and non-regenerable ion exchange units to Alta Devices, California, a company manufacturing solar devices.



2 x 300,000 USGPD (2 x 1135 m<sup>3</sup>/d) brackish water treatment reverse osmosis plant supplied to Umm Al Quwain, Government of UAE



Acid waste neutralisation system with fully automated dosing for a customer in the semi-conductor sector

## In Bangladesh



Four stream reverse osmosis plant of 3850 m<sup>3</sup>/day, supplied to Petroleum Development of Oman (PDO) at Faud site, Sultanate of Oman



Textile waste water treatment, capacity 70 m<sup>3</sup>/h, at Epic Garments Manufacturing Co. Ltd., Narayangange, Bangladesh - the recycle RO with pretreatment capacity is 30 m<sup>3</sup>/h; the balance water from the effluent treatment plant is discharged into the industrial drain. This is the second effluent treatment plant we have supplied to this group and it is our first textile waste water recycle plant in Bangladesh.

# Rendering Seamless Service

Our wide range of 24/7 services delivered through Ion Exchange Services' countrywide service network were much in demand.

## Technical Consultancy

From DCW Ltd., Dhrangadhara, Gujarat, for technical consultancy services for study of the entire water and waste water systems with a view to optimise total water consumption by recovery and reuse.

## O&M Contracts

From Jaypee Gujarat Cement plant, Kutch, Gujarat, for O&M services for their 6 MLD reverse osmosis (RO) plant. Scope of O&M includes sea water intake system, reject water discharge system, product water transfer pump and related mechanical, electrical, instrumental accessories.

Retention for O&M by Indian Railway Catering & Tourism Corporation (IRCTC) for their *Rail Neer* packaged drinking water plants at Nangloi and Danapur for the next five years.

A ten-year O&M contract has commenced at JSW Steel Ltd., Bellary from May 2011. This is for the recycle plant of capacity 125 m<sup>3</sup>/h, including pretreatment, ultra filtration and reverse osmosis systems for treating the cooling tower blowdown.

Successful completion of the first year of the O&M contract for 26 MLD desalination plant at Chennai Petroleum Corporation including sea water intake, permeate piping of 24 kms to the refinery and reject disposal back to sea. This plant was supplied, erected and commissioned by Ion Exchange in 2010.

## Annual Maintenance

A three-year AMC for their entire demineralisation chain, including provision of service and supply of resin, from BPCL, Kochi, Kerala.

## Modification

Modification of pretreatment and demineralisation plants at Kanpur Fertilizer & Chemicals, Kanpur (a unit of Jaypee Cements).

From Kalyani Gerdau Steels Ltd., Tadipatri, Andhra Pradesh contract for modification and revamping of split stream dealkalising system comprising 4 x 210 m<sup>3</sup>/h pressure sand filters, 3 x 84 m<sup>3</sup>/h softeners and 3 x 173.5 m<sup>3</sup>/h strong acid cation unit. Scope involves supply of all necessary spares/ media and resin to revamp the old plant.

## Integrated Facilities Management

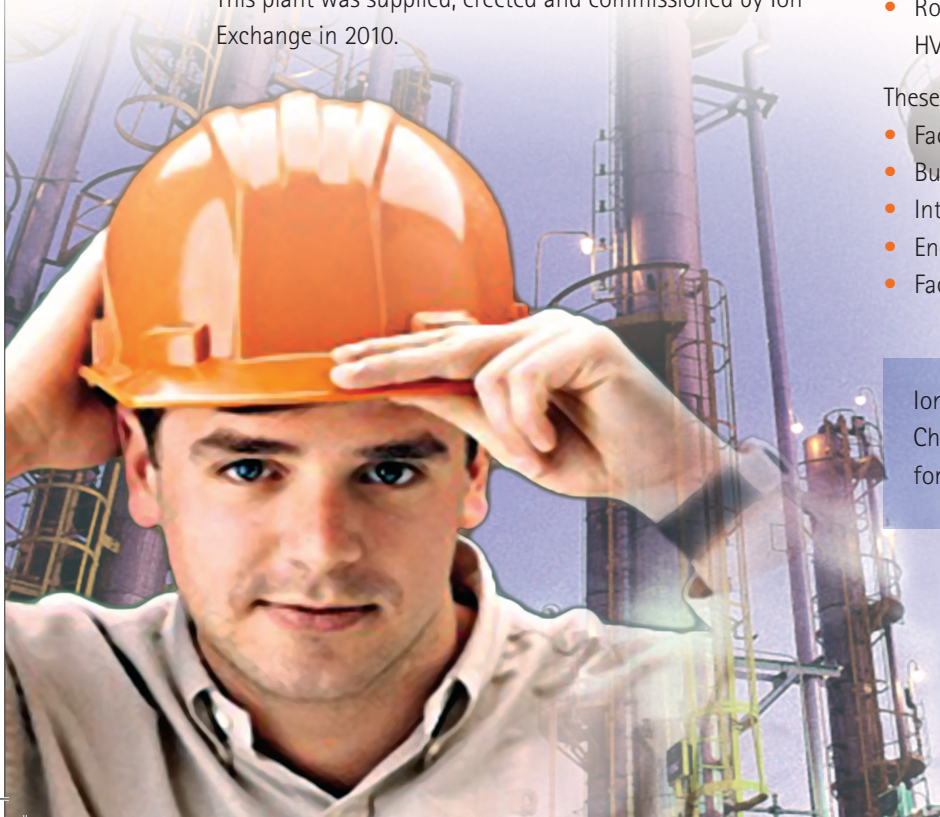
Ion Exchange Services has expanded the range of Integrated Facilities Management (IFM) services offered to cater to the requirement of complete asset management, sustainability and energy management, with:

- Envirocare – which provides service packages to monitor quality of water, air, noise and food
- Robotic Duct Cleaning Services – clean up services for HVAC ducts using robots.

These are in addition to the following IFM services provided:

- Facilities engineering services
- Business support services
- Interior fit-out management
- Energy management
- Facilities management consultancy

Ion Exchange Services won a contract from RMZ, Chennai, a premium commercial office/SEZ developer, for facility water services.



# Creating Ripples – Yet Again

Water Digest Awards 2011-12



Mr. Pawan Bansal, Union Cabinet Minister for Water Resources & Parliamentary Affairs (right) presents the awards to Ion Exchange India's Mr. Manish Gandhi (centre), Associate Vice President – North Operations, and Mr. Dheeraj Kohli, General Manager – Pharma

Ion Exchange was once again the proud recipient of the Water Digest Awards in three prestigious categories.

- Best Water Company
- Distinguished Industrial Water Treatment Project
- Complete Domestic Water Solutions Provider



Honoured with Best Water Company for the fifth consecutive year, the awards testify to our relentless commitment in offering cost-effective, total water and environment solutions to all sectors – industrial, institutional, municipal, homes and communities across urban and rural India.



## PPMAI Achievement Award

Process Plant & Machinery Association of India awarded Ion Exchange the PPMIA Achievement Award in recognition of outstanding contribution in the field of 'Best Water Treatment Project - Industrial' during 2010-11. The award was presented by PPMIA in association with UNESCO, supported by PHD Chamber of Commerce and Indian Institute of Technology.



## Aqua Excellence Award 2011



Mr. Vincent H. Pala, Union Minister of State for Water Resources (left) presents the award to Mr. Ajay Papat, CEO, Ion Exchange Waterleau

Ion Exchange Waterleau was awarded the Aqua Excellence Award 2011 under the category 'Outstanding Contribution Towards the Cause of Waste Treatment & Environment Endeavours – Private Sector'. Presented at the World Aqua Congress, the 'Aqua Awards' honour individuals/nominees of corporate members who have made a mark in their respective fields of expertise or a significant contribution towards the cause of water.

## FICCI Best Manufacturing Practices Awards

Mr. V.N. Hublikar (left), Associate Vice President – Works, accepts the FICCI Certificate of Appreciation awarded to Ion Exchange



Ion Exchange was the proud recipient of a Certificate of Appreciation for best manufacturing practices, awarded to our Resin Division, Ankleshwar, by the Federation of India Chambers of Commerce & Industry (FICCI). There were 62 contenders for the awards instituted by FICCI for the first time this year; of these, 21 companies were short-listed for site audits. Three awards were presented each in the large, medium and small-scale sectors.

# Expanding our CSR Base

Ion Foundation has been steadily expanding its CSR initiatives, aimed at providing assistance in the areas of education, health, hygiene and environment protection.

## Project Muktangan, Mumbai



Running for a cause

A 25-member contingent from Ion Exchange participated in the Dream Run at the Standard Chartered Mumbai

Marathon 2012, organised in support of the Muktangan Project (Paragon Charitable Trust), Mumbai which imparts education to the underprivileged.



## Impact India Foundation, Mumbai



Ion Foundation donated 16 Zero-B Suraksha tap attachments to Impact India Foundation staff engaged in community development initiatives, for use during their travel in rural areas.

## Kids' Centre, Kolkata



Ion Foundation is extending assistance to this socio-cultural and philanthropic organisation which provides primary education to 80 underprivileged children.

## Chetna Learning Centre, Mumbai

Ion Foundation continued its assistance to the Chetna Learning Centre which provides remedial education to underprivileged children by assisting with infrastructure support, funding of school fees and extra-curricular activities.



Reverse osmosis drinking water system provided by Ion Foundation to Timbaktu Collective – Chiguru Alternative Education Programme, in rural Anantapur, Andhra Pradesh





**VISION**

To create opportunities, enabling the underprivileged to become productive members of society

**MISSION**

**Initiate**

- To create awareness for the need to uplift the underprivileged sections of society
- To encourage employee involvement by creating opportunities for meaningful contact with beneficiaries

**Organise**

- To support projects responding to a 'felt need' and having long term impact - relating to education, health, hygiene
- To offer specialised expertise, as facilitators

**Nurture**

- To provide assistance to first generation learners, drop-outs, talented and needy children
- To integrate through holistic support, the underprivileged and special population into mainstream society

**Government Ashram School, Wada**

Installation and maintenance of a solar powered water treatment unit to provide water for potable and bathing purposes at Pali Government Ashram School, Wada for the benefit of 500 students.



Inauguration of the toilet (above) constructed at the Chitkul Primary School Chitkul village at Patancheru; distribution of stationery (below)



Celebrating Diwali at SOCARE, an NGO for the education and welfare of children of convicts, Bengaluru. We also sponsored two banners at a music event 'Sur Sandhya' that was held in aid of SOCARE



Two Zero B Solar Water Purifiers provided to Bethesda Life Centre (Orphanage), Goa

# Launched

## ZERO B D-Ferrous Iron Remover

Our Home Water Solutions division launched India's first iron remover exclusively designed for Indian households. D-ferrous acts as an effective shield against iron contamination in water.



### Features

- Non-chemical, effective method of treatment
- Highest iron holding capacity to retain iron on the media
- Long life of media

- Easy to backwash and saves power
- Removes foul taste and smell from water
- Leaves skin soft, glowing and healthy
- No foul smell in fabric after washing

### Benefits

- Leaves the natural flavour of tea and coffee etc.
  - Saves on cooking gas consumption
  - Increases life span of bathroom and kitchen appliances and fixtures without staining
  - Runs without electricity, hence saves money

## Purity on Tap



Zero B drinking water purifiers at Siddhi Vinayak Temple,

Mumbai provide safe drinking water to over 200,000 devotees who throng the temple daily



## On Display



At PMEC, Mumbai, our one-stop solutions for the pharmaceutical sector



Our total water management, pulp and paper care capabilities were on show at Paperex, Delhi



Ion Exchange goes to Aquatech, Amsterdam



Our wide range of resins on display at CPHI, Mumbai

# Jal Tarang

Jal Tarang, the Ion Exchange annual celebration, saw talent galore, around the theme *Incredible India*.



## Long Service Awardees



35 Years



25 Years



15 Years



10 Years

