

Aqua Specialities Pvt. Ltd

Authorized Channel
Partner for

Ion Exchange (I) ltd

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➤ About Us

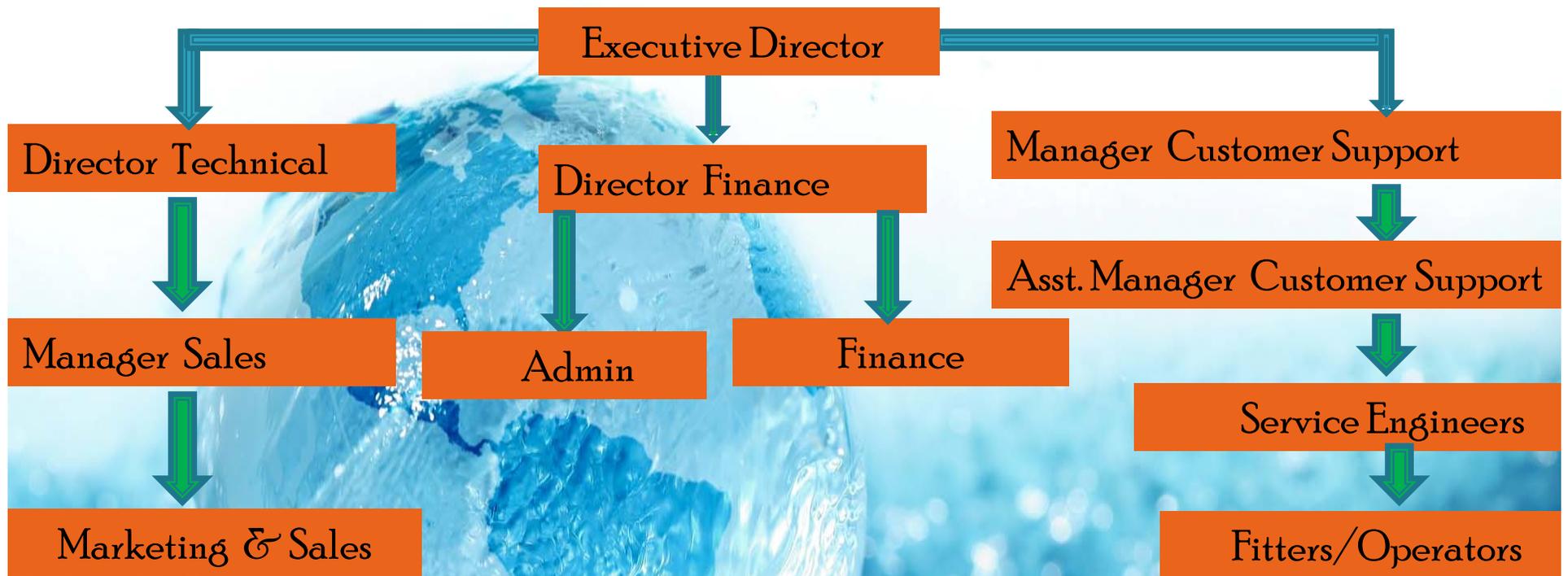
We are glad to introduce ourselves as authorized dealers of m/s. Ion EXCHANGE INDIA LIMITED, the pioneer in water and waste water treatment in india with more than four decades of experience in total water management for industry, homes and communities. It is an iso 9002 and iso 14001 certified company.

➤ About IEI



Ion Exchange India Limited is only Water Treatment Company can provide Total Water Management Solutions. We have well established manufacturing facility established since 1982 with technical knowhow from Grace Dearborn, USA. Our manufacturing facilities with modern state-of-the-art plant spread over 10 acres of land. Our Principle R & D centre India's most comprehensive water laboratory has been recently relocated to Patancheru, near Hyderabad.

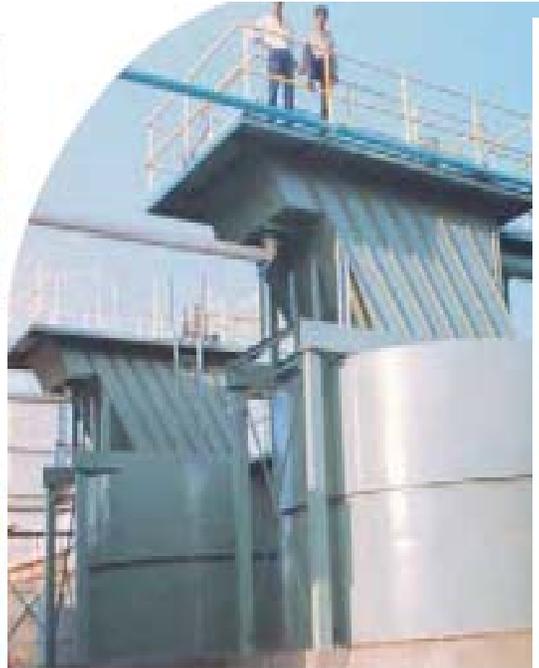
➤ Organization Chart



➤ Our range of products



Ultra high rate clarifier



➤ Our range of products



➤ Our range of products



➤ Effluent treatment System

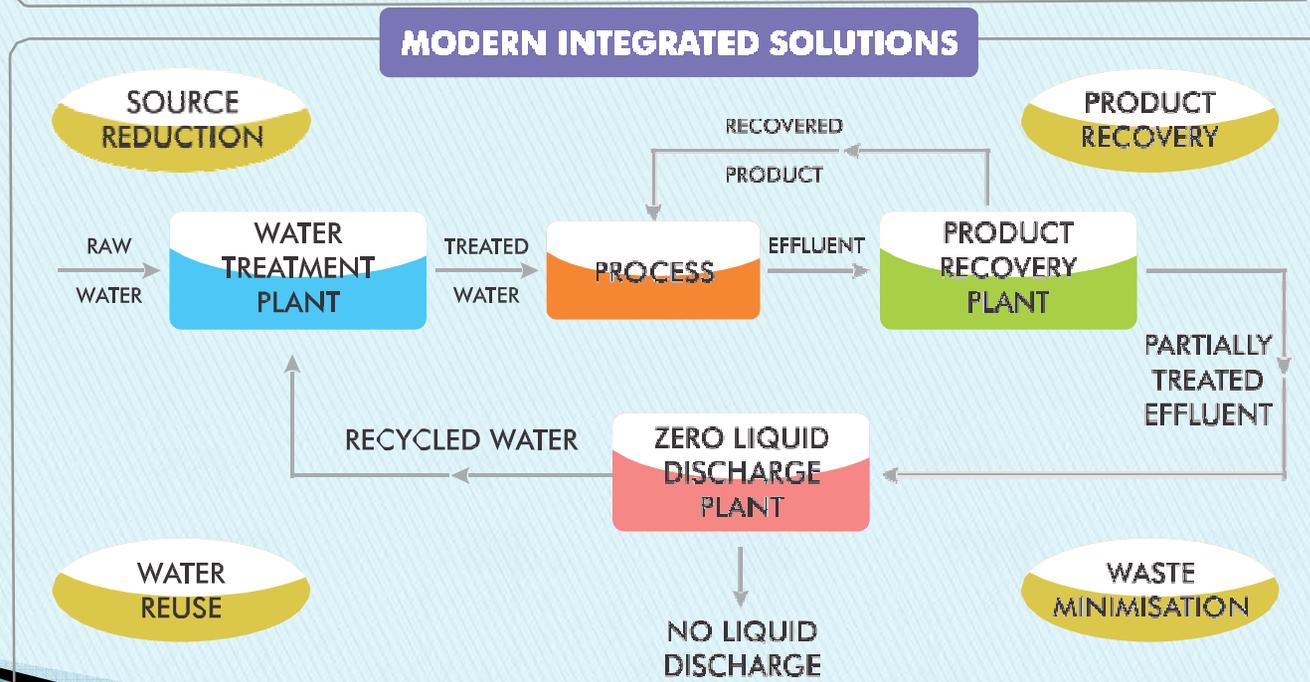
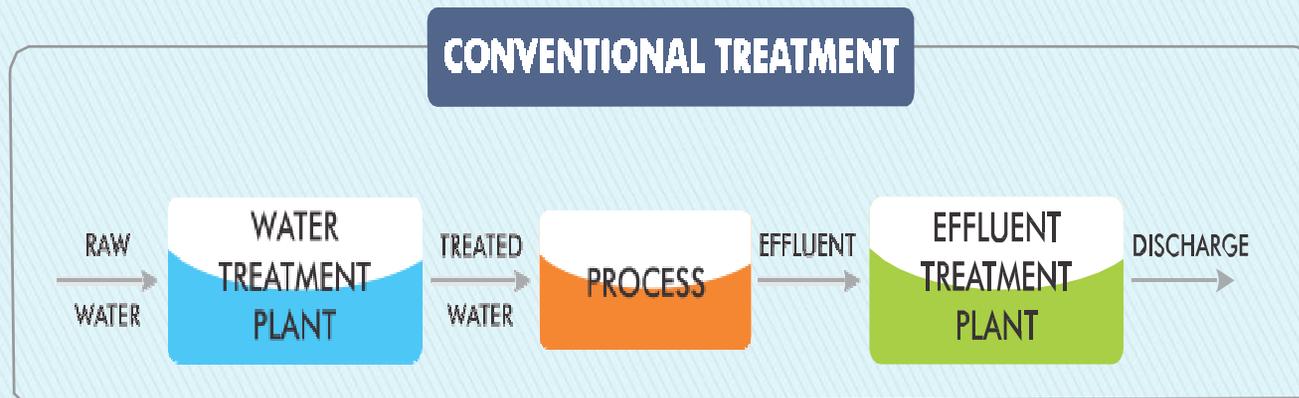
We have created a niche for ourselves by creating a trouble-free range of Effluent Treatment Plant. This is an asset for treating various defective portable water sources. The effluent treatment plant is designed to treat the effluent coming from different areas of the plant with the treatment of different effluents varying with the type of effluent. Our range of effluent treatment plants are designed in compliance with the State Pollution Control Board hence and are ideal for handling industrial effluent originating from all type of industries.

Applications:

Textile processing industry

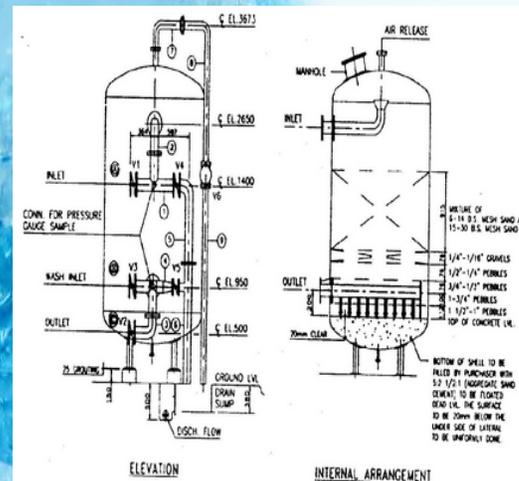


➤ Treatment Scheme for ETF



Multigrade Sand filter - Product Description

Multigrade filter is a depth filter that makes use of coarse and fine media mixed together in a fixed proportion. This arrangement produces a filter bed with adequate pore dimensions for retaining both large and small suspended particles. This filter performs at a substantially higher specific flow rate than conventional filters. Specific flow rates of 15 – 30 m/h have been successfully obtained for treating waters containing 25 – 50 ppm suspended solids respectively to produce filtrate with less than 5 ppm.



Features

Higher specific velocity

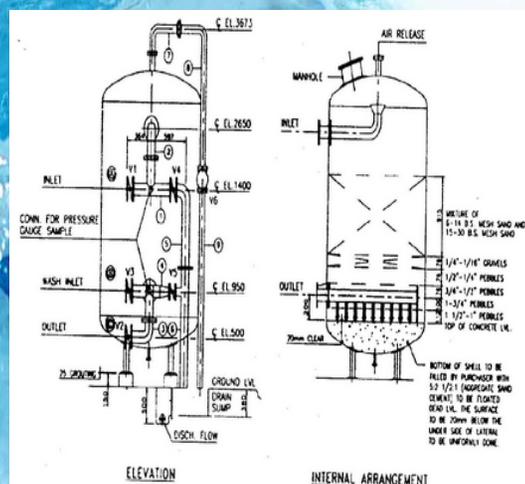
Raw water can be used for backwashing the filter

Applications

The INDION Multigrade filter is an ideal choice for all applications where a conventional sand filter is used. It is extensively used in side stream filtration of cooling water and in potable water treatment. It is ideal for filtration of clarified water. In addition it finds application in sea water filtration and in filtration of chemical solutions. For these types of filtrations rubber lined or epoxy

Activated Carbon - Product Description

The INDION NG series of manual activated carbon filters use granular activated carbon as media. These filters are ideally suited for dechlorination of water with free chlorine content and for removal of organic matter. The free chlorine is reduced to "not detectable" levels.



Features

The NG Series of activated carbon filters are aesthetic, light weight and easy to install. Plastic constitutes a major portion of the materials of construction. The pressure vessel is made of fibre reinforced plastic (FRP), pipes of poly vinyl chloride (PVC) and all the filters have a single multi-port plastic valve operated by a hand lever except the smallest ones where plastic ball valves are used.

Applications

UV System - Product Description

Ion Exchange has entered into a representative Agreement with Triogen Ltd. (Degremont Technologies). Triogen is specialist manufacturer of UV systems based in Glasgow UK. Triogen is one of the world's leading design and manufacturing companies specializing in UV systems for leisure as well as industrial applications. Triogen's wide range of specialty UV systems include low and medium pressure UV systems for applications ranging from general water disinfection and drinking water disinfection to high purity water disinfection, TOC reduction and deozonation. The full range of Industrial application is listed below.

- 1) Drinking Water Disinfection
- 2) Process General purpose water disinfection
- 3) Water feature and fountain disinfection
- 4) Waste Water disinfection
- 5) High purity water Deozonation
- 6) General Purpose Deozonation
- 7) High purity water disinfection
- 8) High purity water TOC reduction
- 9) General purpose TOC reduction
- 10) Aquarium and seawater disinfection

Triogen Products will be marketed, sold and serviced in the Indian Sub Continent by Ion Exchange with support from Triogen UK

RO System - Product Description



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In order to understand the process of Reverse Osmosis (RO), one should first know what is meant by Osmosis.

Imagine a hypothetical experiment. A container is divided into two compartments using semi-permeable membrane. Semi-permeable membrane has a property of selective passage for certain substances i.e. this membrane allows only water to pass through, while salt and other components are rejected by the membrane. The left-hand compartment is filled with pure water. The right hand compartment is filled with a salt solution.

Pure water has higher chemical potential (or energy) when compared with the salt solution.

Second law of thermodynamics states that the flow is always from higher energy to lower energy.

Hence, the water flows from left-hand compartment to right hand compartment. This phenomenon of transport of water across semi-permeable membrane from low salt concentration to high salt concentration is called Osmosis.

Due to Osmosis, the level of water in left-hand compartment falls, while the level of solution in the right hand compartment rises. Since the right hand compartment has higher head (or potential energy) now some water flows back from right hand compartment to left hand compartment. This flow in reverse direction is zero initially when both compartments have same levels, but it increases gradually with the increase in difference between heads (or levels) of the two



Auto Swift DM - Product Description

The latest INDION Swift range comprises a family of automatic twin-bed deionisers incorporating state-of-the-art counter-flow ion-exchange technology previously available only in much larger, custom-designed plant.

The operational cycle of these rapid-regeneration, packaged units is controlled by volume throughput, which is pre-programmed into the PLC according to the type of feed water. The ion exchange resins are never fully exhausted ensuring optimum deionized water production at all times.

Regeneration takes approximately 35 minutes - after a minimum service cycle of two hours - minimizing the need for both, standby plant and the storage of large volumes of water. As regeneration of the cation and anion beds is simultaneous, the effluent streams are largely self-neutralizing, reducing waste disposal costs and environmental impact.

The Swift is exceptionally compact, and is skid-mounted on a corrosion-resistant frame which also accommodates a stainless steel multi-purpose pump. In addition to optimising the performance of the plant during service and regeneration, the pump provides a number of re-circulation options to maintain the high quality of the water in the treated water tank.

Product Description

The INDION Swift Plus features an additional cation exchange stage which is accommodated on the standard, compact skid. As a result the Swift plus produces mixed bed quality water having a resistivity of always greater than 1 mg.ohms-cm for a minimum capital outlay. Running cost are low because no additional regenerant chemicals are required and no extra effluent is

Softener - Product Description

The INDION Packaged Upflow Softener incorporates the proven technique of counterflow regeneration, which produces treated water with low residual hardness throughout the cycle. These softeners are specially designed to suit small and medium scale industries. A strongly acidic cation exchange resin in sodium form is used to exchange sodium ions for hardness-forming calcium and magnesium, and thus produce soft water. At the end of each service cycle exchange resin is regenerated with sodium chloride solution, after which the unit is ready for the next service cycle.

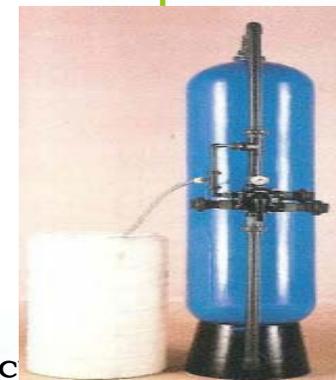
The unit can be easily assembled and does not require any elaborate foundation. INDION Packaged Upflow Softeners are available in a range of different sizes.

Working Principle

The Upflow softeners are based on the counter current regeneration procedure. In this, the softener is regenerated by passing brine solution from the bottom, whereas the service flow is from top to bottom. Here in this process of regeneration, the bottom portion of resin bed gets fully regenerated and during the service the hardness slip in the treated water is very low.

Advantages

- Easy to install and simple to operate.
- Consistent treated water quality.
- Lower regeneration cost.
- Low cost of maintenance.
- Incorporates high-capacity, bead-type cation exchange resin which is highly stable and has a long life.



HIGH RATE SOLIDS CONTACT CLARIFIER - Product Description

Working Principle

The raw / Wastewater, coagulants and large quantities of recirculating precipitates are thoroughly mixed and are retained in intimate contact for prolonged period of time in the draft tube and cone sections of the clarifier. The intimate contact causes the chemical reactions to proceed at a rate with a minimum of coagulants. Further by contacting the water with the great volumes of precipitates in circulation, maximum clarification of the water can be obtained by the adsorptive properties of the precipitates or flocs formed.

For proper clarifications, the design of HRSCC provides three zones:

Rapid Mix zone, where raw water / wastewater recirculated precipitates and fresh coagulants are rapidly mixed together.

Slow Mix zone, where gentle mixing permits floc formation, and bring the floc into intimate contact with the suspended impurities.

Clarification or settling zone, where the upward flow is reduced to a low value to permit the precipitates to settle out.

Raw water entering the reactivator is immediately mixed with previously formed precipitates and chemicals, obtaining intimate contact with solids for the full retention time provided in the mixing zone.

Applications

Clarification of surface water, Lime soda softening, Removal of colloidal silica, Colour removal, White water recycling, Primary treatment of wastewater, Removal of heavy metals in the chemical and automobile industries.

Features

Flash mixer, flocculation and thickener mechanism are inbuilt.



Lamella Clarifier - Product Description

Working Principle

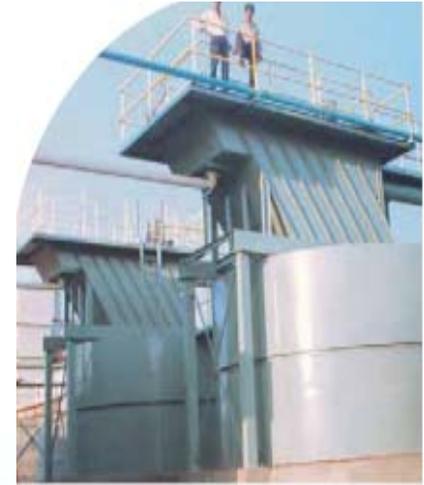
Lamella Clarifier provides a means of water clarification at a large saving of plant surface area. The clarifier consists of a series of inclined overlapping plates, which are arranged to form a separate sedimentation chamber or the cells between each pair of adjacent plates. The overlapping additive projected area of several plates is a factor of increased surface settling area proportioned to the number of plates used.

Before entering to Lamella Clarifier, water is first fed to Flash Mixer and Flocculation Tank (FMFT). Chemicals like alum, ferric chloride, lime are added in flash mixer in which high-speed agitator is provided for proper mixing of chemicals in water. Water from flash mixer enters in flocculation chamber in which paddle type agitator is provided for gentle mixing. Polymer is added for flocculation of coagulated particles. Sufficient residence time is provided in this chamber for particles to become heavy before entering into Lamella Clarifier.

Static mixer can replace the flash mixer. In such case, chemicals were added prior to static mixer. The zigzag vanes are provided in static mixer to do proper mixing of chemicals.

The pretreated feed stream enters the Lamella and transverses through feed ducts longitudinally, along each side of the Lamella plates, through a bottomless distribution duct. The liquid/solid feed stream then enters each plate chamber near the bottom section of the plates and flows upward between them. As the feed stream moves upwards, solids settle downward by the plates descending a short distance onto the surface area provided by the plates. Solids continue to slide down the plate surfaces to a collection hopper.

Near the top of each plate, water leaves each cell through a pair of circular openings in the adjustable weir plate located along each side of the clarifier. The weir plate should be set horizontally and in



Lamella Clarifier - Product Description

Features

Flow entry:

The flow enters from both sides of the plate. Distribution and entry velocities are minimum to optimise the hydraulic flow regime, resulting in full plate utilisation, maximum efficiency and better effluent quality.

Weir take-off:

A weir launder provides an effective weir length. The weir has orifices on either side of each plate.

Removable plates:

Individual plates are easily removable even during operation, making the unit very simple to maintain. The design offers flexibility to handle changes in influent characteristics.

Hopper Arrangement:

Several options are available for sludge storage. The standard arrangement is a hopper bottom with a structural support frame. A second option is to mount the lamella clarifier on top of a thickener in order to achieve a higher solids concentration, while providing a large sludge volume.

Applications

- Ash / Scrubber waste treatment
- Brine Clarification
- Clarification of water
- Coal and other mineral separation
- Filter backwash water recovery
- Food and dairy processing and wastewater
- Iron Removal
- Methyl hydroxide separation

FMR – Product Description

FMR system is a "SINGLE TANK DESIGN UNIT" consisting of:

- FMR aeration tank with floating media
- Lamella Settler
- Chlorine Contact Tank



Features of FMR Media

- High Surface Area
- High physical & chemical resistance
- Low Annual Losses (3-5%) in case of foam media
- Good biomass retention capability

FMR Advantages

- Significant reduction in space requirement due to its single tank design and compactness
- Reduced power due to elimination of sludge recirculation
- No moving mechanical parts, less maintenance
- Increased SRT and hence well nitrified effluent and low sludge volumes
- Easy upgradation and extension of existing waste water treatment plants

Applications

Residential complexes

Hotel

Resorts

➤ Chemicals



In almost all types of chemical industries, water is not just part of the production process but also forms part of the product itself. Our treatment systems ensure requisite quality of water whether for process use, drinking water, cooling water, rinse water or boiler feed.

Pretreatment/process treatment and high purity water systems

Waste water treatment & unique processes for effluent recycle to achieve zero discharge

Cooling and boiler water chemical treatment programmes

Comprehensive O&M for all water systems and utilities and BOT contracts

24/7 service support

Supply of consumables like ion exchange resins,

➤ Instrument Series



TDSscan - pocket size TDS / Conductivity Meters with LCD display

➤ INDION pH / Conductivity meters - In-line and Panel mounted

➤ INDION Bench Top pH / Redox indicator / transmitter

➤ INDION Process Controllers - pH / Redox / Conductivity / Resistivity

➤ INDION Dissolved Oxygen Indicator / Transmitter / Controller

➤ Alpha -1000 Process Controllers - pH, ORP, Conductivity & Resistivity



➤ Servicing & AMC For Water Treatment Plant

Operation and Maintenance Contracts (O&M)

In this comprehensive Contract, we undertake complete responsibility of the Plant to produce the treated water of the designed quality & quantity. We provide the required Manpower, spares & consumables for trouble free operation of the Plant.

Annual Maintenance Contracts (AMC)

The Annual Maintenance Contract (AMC) takes care of preventive maintenance. The AMC ensures longevity of Components, trouble-free operations and lower downtime. Services include scheduled inspection & scheduled maintenance of the Plant.

Water Audits

Water Audit study is a qualitative and quantitative analysis of water consumption to identify means of reuse and recycling of water. It also enhances the efficiency of the complete water circuit. This study includes segregation of effluent streams and schemes for effectively treating them. Water Audits encourage social responsibility by identifying wasteful use, enables estimation of the saving potential. They not only promote water conservation but also deliver cost savings & help companies safeguard public health and property.

Plant Monitoring Services

This Service package ensures efficient performance of the Plant. The package covers scheduled Inspection, scheduled maintenance, service visits and laboratory services.

Automation

We carry out the Automation of the existing Plant to reduce the manpower and costs. As the Manpower cost is getting increased by the day, the need for automating the process, which in turn calls for Automation of the Plant. We provide complete support for automating the conventional Plants to achieve consistent performance with low cost and lesser human interference.

Up gradation /Revamping

We upgrade/Revamp the existing Water Treatment Plants for Capacity/Quality enhancements as per the Customer need. The Up gradation/Revamping work is managed by

➤Automobiles

TAFE



Lucas-TVS Limited



Brakes India Limited



Sundram Fasteners Limited



Abi-Showatech



Visteon



Samvardhana Motherson Reflectec



ANTOLIN



ENNORE FOUNDRIES LIMITED



IP Rings Ltd.

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Diesel Systems Limited



HYUNDAI



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KFL
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Mahindra

HINDUJA GROUP

➤ Chemical Industries



Kilburn Chemicals Ltd
An ISO 9001:2000 Certified Company



Kanam

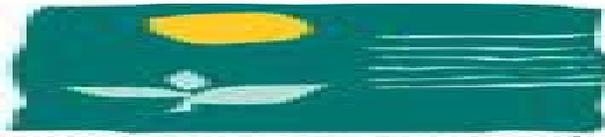
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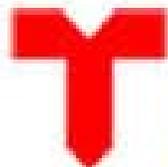
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Supreme Petrochem Ltd

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MEPCO

➤ F & B



➤ Pharma Industries





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