ELPRON™

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Elpron Exchange Water Engineering Private Limited

THE COMPANY OVERVIEW

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ELPRON: An Introduction

Elpron is promoted by water treatment and technology professionals with experience of more than Seven Years. The company has provided total water solutions for industrial through.

- Manufacturing Of Domestic R.O. Cabinets and its accessories
- Design & implementation of R.O. Packaged Drinking Water Plants
- Design & implementation of Effluent Treatment Plants
- Design & implementation of Mineral Water Plants
- Design & implementation of Water Treatment Plants Including Deaeration
- Establishment of laboratories for Water testing
- Consultancy Services in field of Water Management and complete recycling of Industrial Water & rain Water Harvesting
- Our Expertise in Chemicals for Boiler Water Treatment
- Our Expertise in Chemicals for Cooling Water Treatment
- Decaling Chemicals
- Portable Water Testing Kit
- Specialty in Waterside Corrosion Inhibitor for Fire Fighting System
- Our Expertise in Chemicals for Effluent Control
- Blow Down & Chemical (HP/LP) Dosing Systems
- Latest Technology in the field of Reverse Osmosis

Over View and Approach

An Overview……

We have established a product range to address all stages in Domestic and industrial use of water.

- With our expertise in providing *chemicals* for industrial water application equipment and consultancy services for the same.
- Pre treatment of water.
- Post treatment of water i.e. *Effluent treatment.*

Within first year of inception company installed and maintained several effluent treatment plants approved by various pollution regulatory authorities. The company also supplied chemicals to more than hundred Industrial houses. These Chemicals were constituted as per site, water supply and quality, industry and end use specifications.

Approach….

- The basic tenets of the organization
- Optimization of cost.
- Supply of Quality Products. Reduction in the cost per unit of water treated
- Proactive interaction with client.
- After sales services and Consultancy. Regular monitoring of treatment process to check for quality indicators and offer mid course corrections as and when required.
- **Involvement of all the stakeholders:** Through understanding of the problem from the perspective of all the stakeholders so as to equally satisfy the operators and the management.
- **Knowledge Management:** We actively interact with our client to understand the problem and share our expertise via seminars and on the job demonstrations and training for the operating staff.

It is our philosophy to address need through scientific and technological approach, which includes most advanced technology in the industry. Quality in product & in Services is our hallmark.

Products and Services

The entire list of products and services offered by us can be classified in to various groups.

Products for …

1. Pre treatment application.
2. External treatment application.
3. Internal treatment application.
4. Miscellaneous products.
5. Post treatment applications.
6. Reverse Osmosis for Domestic And Commercial application.
7. Laboratory establishment services.
8. Management of water at site through products services Consultancy.

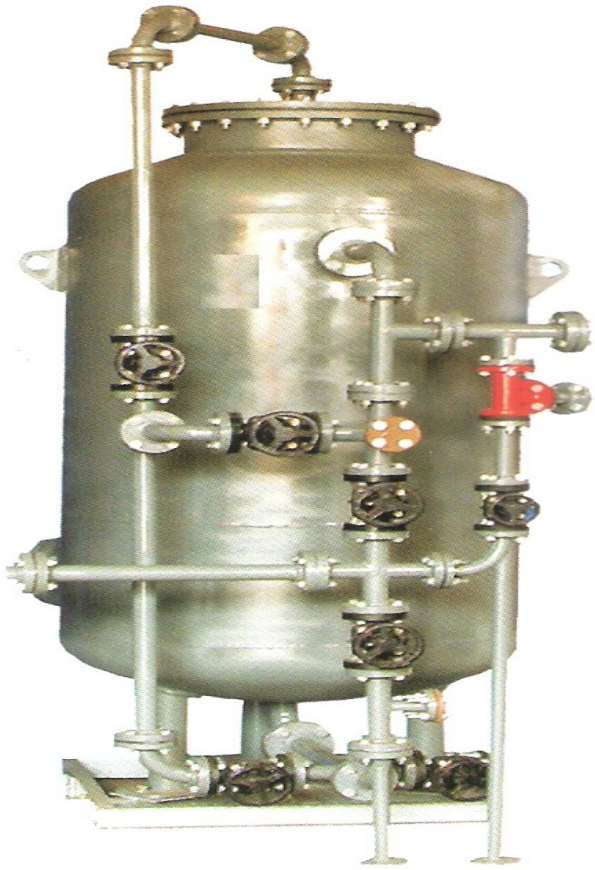
Pre treatment Application

Depending on the raw water quality the pretreatment process may consists of all or some of the following treatment steps:

- Removal of large particles using a coarse strainer
- Clarification and hardness reduction using chemicals treatment
- Media filtration
- Final removal of suspended particles using cartridge filter

(A) FILTERS

i) Conventional Sand Filters



The initial removal of large particles from the feed water is accomplished using strainers of traveling screens are used mainly for surface water sources, which typically have large concentrations of biological debris.

ii) Non Conventional Disc Filters, Cartridge Filters

Cartridge filters almost universally used in all RO Systems prior to the high pressure pump; serve as the final barrier to water born particles. The nominal rating commonly used in RO applications is in the range of 5 – 15 microns. Some systems use cartridges with micron ratings as low as 1 micron. There seems to be little benefit from lower micron rates filters as such filters requires a high replacement rate with relatively small improvement in the final feed water quality.

iii) Dual Media Filter

Dual Media Filter system is a pressure vessel that consists of more than one layer of filtering media. Service water enters the Dual Media Filter through the service inlet valve the inlet distributor, which evenly distributes it over the media bed. The purpose of the media bed is to remove suspended solids from the service water. A typical media bed configuration consists of two layers 18" of 0.45 mm sand. The bottom layer consists of support gravel, which does not have any filtering capability.

As the incoming water pressure drives the service water down through the media bed, suspended solids are preferentially restricted through the bed and the smaller filter media at the bottom of the bed catches the smaller particles.

At the bottom of the filtering media, strainers on plate type under drain assembly collect the filtered water. The filtered service water then exits the vessel through the service outlet port.

Eventually the media bed becomes laden with trapped suspended solids from the service water a back wash cycle is then performed.

The dual media filter incorporates a design the provide 50 % free board for backwash. This means the vessel is tall enough to allow expansion of the media bed to maximize backwash results without the loss of filter media. After expanding the media bed, the backwash water carrier the loosened impurities into the inlet distributor. The dirty backwash water exits the vessel through the backwash outlet port of the multiport valve and goes to drain. After a specified amount of time the backwash cycle is complete. The filter bed is rinsed for some time. After completion of rinse cycle the service cycle starts.

(B). Chlorinators

i) Chemical dosing

(C). Clariflocculators

i) Conventional

ii) Non Conventional

(D). Dosing Systems

i) For lime / coagulants / flocculent aid.

External Treatment Application

Softener, De-alkalizers, De-mineralizer, Reserve osmosis & Degasifier equipments

Softener

Softening is a widely used technology for reducing hardness reducing ions (Ca & Mg) which precipitate & scale at very low temperatures & pressures. Softening is a reversible ion exchange process wherein the hardness forming ions are exchanged with sodium ions present in the resin group.

Elpron offers a wide range of Softening plants with versatility in flow, flexibility in resin quantities & ease in operation.

Reverse osmosis And Packaged Drinking Water Plant

If we separate salt solution and water by semi permeable membrane water diffuses to salt solution side, this process is called osmosis. If the pressure applied is greater than osmotic pressure to salt solution side the said process is Reverse Osmosis process has got capacity to work on wide T. D. S. range 50-30000 ppm. It has 0.0001 micron diameter size which rejects almost all dissolved impurities like Bacteria, (e-coli, crypto) Virus, Dust, Dirt, Pesticides and dissolved impurities such as Calcium, Sulphate, Fluoride, Iron, Lead, Organics, Silica, Chemical contamination, Arsenic, Mercury, Colour and other contaminations.

The said process is only perfect technique capable to below 100% safe "Limped Drinking Water". The smallest contamination in water i.e. bacteria and virus, have much larger size 0.4-1 micron and 0.02-0.4 micron respectively, than R. O. pore membrane.

The advantage of reverse osmosis compared to other conventional technique are as follows:

Low operating cost, No need of re-generation, No handling of hazardous chemicals, Eco friendly operation, Excellent capacity to remove T. D. S. up to 90% and removes organic contaminations up to 99%.

PET BLOWING MACHINE

1. SEMI-AUTOMATIC BLOW MOULDING MACHINE-

- Produces PET bottles from 0.1 to 5 Ltr. capacities.
- Incorporates infrared oven to heat the performs, then the performs are loaded on the blowing machine.
- The 2 head blowing machine then blow the preheated perform into bottles up-to 2 Ltrs.

BOTTLE FILLING - PACKING SECTION

1. FAB SERIES AUTOMATIC MONOBLOC RINSER/ FILLER /CAPPER

- Fab series monobloc bottling machine is a third generation bottling machine incorporating state-of-art design.
- The air infeed conveyor feeds the bottle to the rinsing section. Its followed by advanced micro negative filling and then filled bottle is capped hermetically.
- Monobloc design ensures high sanitary conditions are maintained and minimal exposure of product to the atmosphere.
- The machine incorporates high level of automation like “no-bottle-no-fill” and “no-bottle-no-cap”, low cap alarm duly controlled by centralized panel.
- Complete machine is aesthetically designed and fabricated and ensures sturdy and stable running.

RINSING HEAD

With the help of rinsing heads bottles are inverted automatically and are cleaned with high velocity water jets to remove unwanted dust particles. The bottles from the in feed Neck Guide Plate are gripped by two pair of fingers i.e. Bottle Neck holder bracket assembly. The gripping fingers will hold the bottle by neck and necessary guide bars will invert the bottle upside down by 180 degree.

The duly inverted bottle will receive water from the rinsing nozzles on rear of the machines. The rinsing will operate from 90 to 270 degree rotation of the rinsing machine. Zero degree position is in front of the operator.

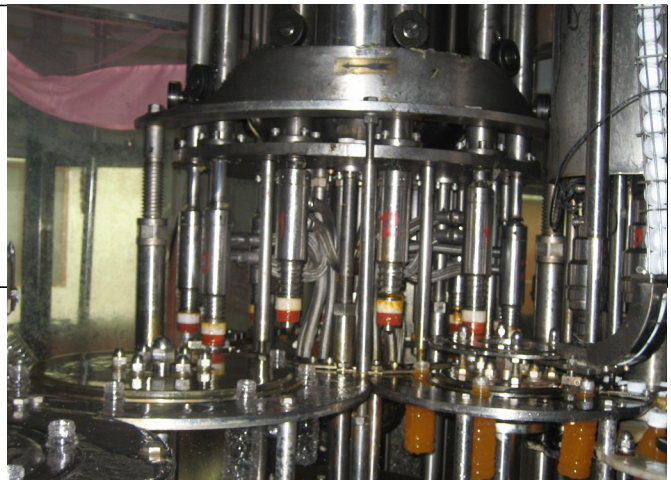
In 180- degree rotation the washing cycles will be stopped and bottles will be re-inverted and delivered to the Out feed Neck guide plate, which will transfer the bottle to the filler.

AIR COVEYOR

Air Conveyor is connected with output conveyor of blow moulding machine to feed the bottles online to RFC Machine. A blower is fitted on top of the frame of the air conveyor. The air pushes the bottle further automatically and the bottles enter the monoblock Rinsing, Filling & Capping Section

FILLING HEADS

Bottles are transferred from the washing station to the filling station where bottles are filled up to the neck level or as required principle of filling is based on gravity method.



The Neck holder of the filler will hold the bottle along with the help of external guide. Filling tank will have liquid probe system to control level of mineral water in filling tank. As soon as the bottle is filled and during rotation of the machines valve will be closed and bottle will be lowered and transferred on the Neck Guide Plate.

CAPPING HEADS

Bottles will automatically take one cap from cap chute and the capping head will tight it.

The bottle will enter the capping turret and by adjustable chucks, caps will be firmly tightened.

Duly capped bottles will be transferred on the conveyor. Drive system will consist of motor, gearbox and Gear trains to drive. The machine also has in A/C drive for controlling the speed of the machine. In neck holding machine change part is required only in feed and out feed of the machine. It also has a cap elevator for feeding the cap to the chute. The machine will be enclosed with SS Frame Cabinet with Acrylic Sheet.

This machine is suitable for 28mm Perform having 26mm neck diameter below the collar. The machine can fill bottle having maximum 100 mm diameter & 330mm height. The machine can also be designed as per your specification.

BOTTLE FILLING - PACKING ACCESSORIES

INSPECTION LIGHT

For visual inspection to ensure the product free from physical/ suspended contamination, prior to labeling.

SHRINK TUNNEL

For automatic shrinking of PVC labels placed (Manually) over Bottle to ensure the desired branding & good aesthetics.

CUP & POUCH FILLING MACHINE

1. POUCH FILLING & SEALING MACHINE

- Suitable for filling water in filling range of 100-500 ml.
- Available in single head and double head filling variants.
- Entire machine has stainless steel contact parts.

2. AUTOMATIC CUP FILLING & SEALING MACHINE

- Automatic Cup filling machine is designed to fill & seal plastic cups automatically.
- The machine comes with a linear conveyor.
- The cups are loaded to the cup holders from the cups automatically. The cups holder carries to the filling stations where the cups are filled accurately. The filled cups are then provided with seals by a Pick & Place system. After which the sealing of cups are done by the cup sealer.
- The system in in-built with safety protection devices.

CODING SECTION

1. INKJET PRINTING EQUIPMENT

Suitable for printing batch number /price/manufacturing date/ expiry date etc. automatically on the bottle/caps.

- Up to four lines printing with variety of print formats.
- The machine PLC controlled and can be interfaced with a PC.
- Reputed international brand.

LABORATORY

To ensure the desired quality of processed water a quick & efficient quality monitoring cum control system i.e. Testing Laboratories must present at manufacturing/ packing site. These are basically a module of two independent labs as:

- Analytical Lab. for testing of Physico- Chemical parameters.
- Microbiological lab. for testing of Bio-chemical parameters.

Internal Treatment Application

i) Products & Services for Boiler & Cooling Water Treatment

ii) Anti Scalant & Sludge conditioners

iii) Corrosion Inhibitors

iv) Alkalinity builder

v) Oxygen Scavengers (For Boiler)

vi) Algaecides for Cooling Towers.

vii) Descalant and Decaling operations (Excel supervision on chargeable basis.)

Post Treatment of Water

Effluent Treatment Plants and Consultancy

Sewage Treatment plants

Trouble shooting of these systems