



ZEN ENGINEERING

Juices

Water treatment & waste water treatment

Tablets
Capsules
IV Fluids
WFI

Plastic bottle caps
Plastic prefoums
Plastic jerry cans

Mineral water

Milk

Colas

Turnkey Project Solutions





BACKGROUND

Zen Engineering was primarily established to Design, Manufacture and Export, Water and Waste Water Treatment Equipments. Customized Treatment Solutions have been provided for clients in diverse fields that include amongst others

- Pharmaceuticals & Food Processing
- Beverages & Mineral Water
- Chemicals & Packaging etc.

With the rich technical backgrounds of the promoters in various fields and existing clients demands, over the years Zen Engineering started shifting its focus from not only providing solutions in Water and Waste Water projects but towards Turnkey Project Design, Procurement, Installation and Commissioning for various clients in

- Beverages like colas, mineral water, juice, milk
- Plastics like preforms, caps
- Pharmaceuticals like wfi, tablets, capsules, syrups, etc.

PROMOTERS & PERSONNEL

Mr. Ramesh Nakhwa	B.Chem [UDCT], PGDBM [IIMC]
Mr. Parimal Pajankar	B.Chem [UDCT], PGDBM [IIMA]

The company has a manufacturing facility with state of the art machines to provide products through GMP norms. The project team consisting of designing engineers, fabricators, site managers and erectors supports the company in its foray.





In a turnkey project scenario the following aspects were Completely handled as a single point responsibility

- Complete Project Design
- Optimal project size based on market scenario
- Optimal equipment sizing to avoid energy and material losses.
- Options for various equipment suppliers required for the project
- Integration of various equipments from various Manufacturers and proving as a complete turnkey Solution for the project.
- Layout for the project
- Raw Material Suppliers
- Designing of important parameters viz, bottle, cap, Lable etc.
- Installation And Commissioning of the Project
- Complete Training of personnel
- Complete Project Co-ordination in India and at site To ensure timely, eective and suitable project Implementation to give desired product



CERTIFICATIONS AND ASSOCIATIONS

- ISO 9001-2008 certied company from Underwriters Laboratory [UL]
- Certied SE 1B by CRISIL

Member of

- TISSA , FIEO , MVIRDC, EEPC, IACCI, IACCI

AWARDS

Recipient of various national and international awards, for equipment Quality and best export performances in our category.



WATER TREATMENT EQUIPMENTS

Water Treatment plants for customized applications is our forte! Treatment Plants for critical applications in Pharmaceuticals etc have also been supplied.



PRETREATMENT EQUIPMENTS

Equipments used in the preliminary stages of water treatment.

- Multimedia Filters
- Activated Carbon Filters
- Micron Filters
- Bag Filters

ION EXCHANGE SYSTEMS

Equipments used, to reduce minerals and hardness in water.

- Softners
- Demineraliser
- Mixed Bed





MEMBRANE SYSTEMS

Equipments used to polish the water to desired levels of process requirements.

- Reverse Osmosis Systems [Single and Double Pass]
- Nano filtration
- Ultra filtration
- Electro de ionization

MICROBIOLOGICAL TREATMENT EQUIPMENTS

Equipments used, wherein microbiological activity is deterrent to the final product or the process.

- Chemical Dosing Systems
- Ultraviolet Sterilisers
- Ozonators
- Absolute Micron Filtration



For critical water generation and distribution projects in The pharmaceutical industry for USP grade systems we Provide

For System Manufacturing and Integration,
■ URS/FRS/FATS, Process Safety Analysis [PSA], Process Safety Management [PMS] Programs

For System Commissioning And Validation
■ GMP Audit, SOP Development, O & M and PM Manuals and Training, DQ/IQ/OQ/PQ Equipments

For Industry Compliance
■ ISO, ASTM, NCCLS, PHARMACOPEIA



WASTE WATER & EFFLUENT TREATMENT PLANTS



OTHER EQUIPMENTS

- Only Drives for all type of Clarifiers and Clariocculators.
- Grit Separator Mechanism
- Mechanical of Manual Bar Screens
- Surface Aerators of Inverted core Design and Submerged Aerators
- Trickling Filters
- Thickeners
- Overload Mechanical Devices for Drive Heads
- Belt Filter Screens



WASTE WATER AND EFFLUENT TREATMENT

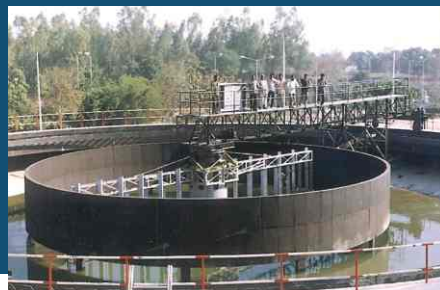
Sewage, Euent and other types of Waste Water treated and processed as per clients or pollution control norms form an integral part of our equipment supplies.

CLARIFIERS

- Reactivator Clarifiers
- Fixed Bridge across the tank
- Fixed Bridge with Centre Pier
- Peripherally Driven

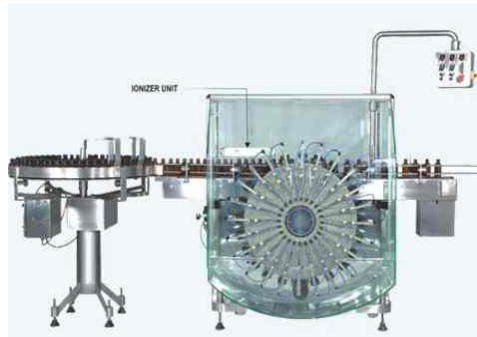
CLARIFLOCCULATOR

- Fixed Bridge Across the tank
- Rotating Bridge





PHARMA TURNKEY PROJECTS



Zen Engineering has recently ventured into Pharmaceutical Projects, to take advantage of the pharmaceutical work experience that the promoters of the company have.

Machinery supplied for the pharmaceutical projects include those for

TABLETING AND CAPSULATION

- Granulators
- Tableting Machine
- Coating Equipments
- De Dusting and Polishing Machines
- Dies and Punches

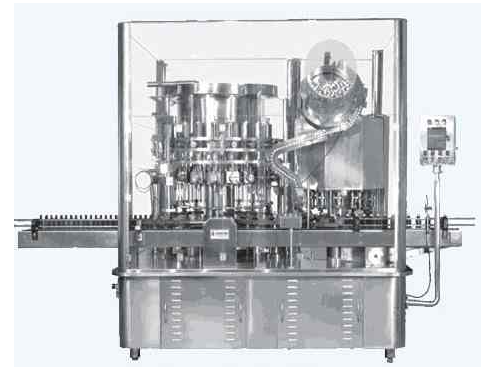


DRY POWDER INJECTABLES AND DRY SYRUP EQUIPMENTS

- Blending
- Vial Washing, Drying, Filling and Stopping machinery
- Capping and Labelling Machine
- Blending and Bottle Drying

INTRAVENOUS LIQUIDS [IV AND WFI]

- Form Fill Seal machines [FFS]
- Super Heated Water Spray Sterilisers
- Multi Column Distillation Stills [MCDS]
- Vial Washing, Drying, Filling and Stopping machinery



PACKING EQUIPMENTS

- Blister and De Blister machines
- Strip Packing, leaf folding, cartoning machines

WE ALSO DO COMPLETE PROJECTS FOR CREAMS, LOTIONS,
OINTMENTS EYEDROPS





TURNKEY PROJECTS IN BEVERAGES

Beverage Projects were a logical extension of water treatment project supplies. Turnkey Projects in beverages have been implemented for

- Carbonated Soft Drinks [CSD]
- Mineral Water
- Juices [Synthetic as well as Natural]
- Milk
- Ready to Serve Drinks [RTS]



We supply all the equipments towards the complete Project requirement.viz

PROCESS EQUIPMENTS

- Sugar & Concentrated Flavour Syrup Preparation
- Carbonators & Premix Systems
- Homogenisers & Pasteurisers
- CIP Systems
- Juice Extraction & Concentration Autoclaves
- Autoclaves

CONTAINER MANUFACTURING MACHINERY

- PET Stretch Blow
- HDPE Blow
- Cup
- Pouch





CLOSURE MANUFACTURING MACHINERY

- HDPE / LLDPE / PP caps
- ROPP / Crown Caps
- CSD Caps
- Jars & Jerry Can Caps & Plugs
- Magnetic Induction Sealing Wads



RINSING, FILLING, CAPPING [RFC] & FORM FILL SEAL [FFS] MACHINERY

Plastic & Glass Bottles

- Cups
- Pouches
- Drums
- Jerry Cans
- Customised bottles like for Toilet Cleaners



PACKING EQUIPMENT

- Conveyors
- Labellers
- Batch Coders
- Carton Packers





TURNKEY PROJECTS IN PLASTICS

Turnkey Plastic Projects were implemented for various clients who wanted to cater to their in house requirements or wanted to go for diversifications.

Equipments supplied in this category include those for

INJECTION MOULDING TO MANUFACTURE

- Preforms
- Caps
- Containers
- Tamper Evident Lids
- Other Injection Moulded Articles

BLOW MOULDING MACHINES

- Pet Stretch Blow Moulding of preforms to Bottles
- HDPE Blow Moulding for Jerry Cans , containers
- Blown Film Plants for carry bags , lables etc
- PE Form Fill Seal Machines



THERMOFORMING TO MANUFACTURE

- Cups
- Trays

PVC COMPOUNDING & EXTRUSION

- High Speed Mixers
- Extrusion for pipes , tubes , conduit and irrigation pipes
- Film / sheets extrusion

PLASTIC RECYCLING MACHINERY FOR

- PET recycling
- HDPE and other plastics recycling

MOULDS

- All types of moulds for the above applications



RENEWABLE ENERGY

Search for renewable energy which would address the needs of the future has been an important issue world over. Zen Engineering has recently collaborated with various important companies locally and abroad, to supply an integrated package for generating renewable energy, based on the clients requirements.

Solar Energy

Solar power technologies provide electrical generation by means of photo voltaic by converting the radiant light and heat from the sun into usable electrical/energy form. Once converted then its uses are limited only by human ingenuity. These are suitable for areas where sunlight is good throughout the day



- Zen Engineering can supply:
- Photovoltaic cells
 - Solar Panels of required generation
 - Complete turnkey systems for conversion of solar energy into electrical DC/AC power for use of electrical appliances
 - Water heating Systems etc
 - Wind Turbines of required generation
 - Complete turnkey systems for conversion of wind energy into electrical DC/AC power for use of electrical appliances
 - Street Lamps etc.
 - Smoke free stoves[burners] for cooking etc.

Wind Energy

Wind power technologies provide electrical generation by means of wind energy. These are suitable for areas where winds are good. They can be available in the night also.



Bio Gas Energy

Bio Gas energy is obtained from living and recently dead biological material that can be used as fuel or for industrial production. These are suitable for farms, small societies etc.



Our Presence



Algeria



Angola



Congo



Cameroon



Ethiopia



Ghana



India



Iran



Kenya



Kingdom of
Saudi Arabia



Malawi



Maldives



Mauritania



Mozambique



Nigeria



Republic of
South Africa



Seychelles



Sudan



Sultanate of
Oman



Suriname



Tanzania



Uganda



United Arab
Emirates



Yemen



Zimbabwe



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