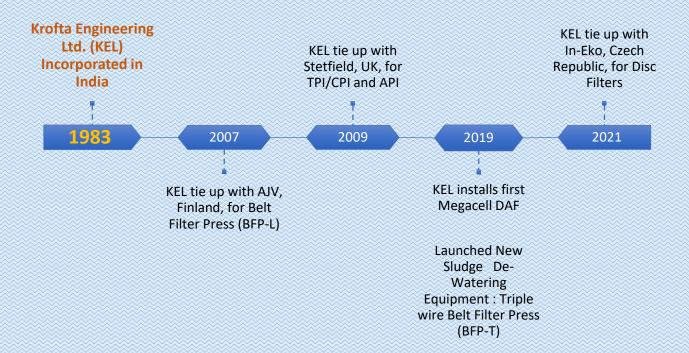




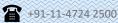
## OUR JOURNEY SO FAR:



## WHAT DO WE DO:

- We offer global solutions for water and waste water treatment, recovery of resources and energy generation
- We design, engineer, manufacture, install and commission all our machines and projects. All our manufacturing is in our own facility in North India
- We provide complete turnkey solutions, including water and waste water treatment plants and effluent treatment plants
- KEL maintains the highest quality and procurement standards
- With over 3,000 installations in India and more than 10,000 around the globe we consistently meet customer requirements, have reliable on-time delivery and cost-effective solutions which operate at the highest efficiency
- We supply equipment for a varied range of applications in Pulp and Paper, Desalination, Powerplants, Dairy, Pharmaceuticals, Chemical, Municipal, Food and Beverage, Oil Refineries and many more
- Over the years we have also made several successful partnerships with international companies to supply technology in India, Middle East, South East Asia and Africa









## **OUR PRODUCT RANGE:**

#### PRIMARY TREATMENT

Primary Treatment consists of removal of Total Suspended Solids, Oil, Fat, Grease and even COD and BOD associated with suspended loads. We offer our worldrenowned Dissolved Air Floatation technology, in circular as well as rectangular machines. The range of flow rates which can be handled by our DAF's start as low as 5 m<sup>3</sup>/hr and go up to higher than 2500 m<sup>3</sup>/hr for a single unit. We often guarantee 85-90% reduction in TSS, oil and grease after DAF treatment, under the conditions of proper maintenance and chemical dosing. Heavy oil loads can be removed using API followed by TPI/CPI.

### **Dissolved Air Floatation Units**

- Circular
  - Sedicell
  - Minicell
  - Supercell
- Rectangular
  - Megacell
  - Unicell

# Oil Water Separators

- o API
- o CPI/TPI
  - Single Stage
  - Two Stage















### **SECONDARY TREATMENT**

For secondary treatment we offer clarifiers, with the purpose of further reduction of settleable suspended solids. We offer conventional clarifiers as well as lamella clarifiers with tube media or inclined plates.

## **Secondary Clarifiers**

- Conventional Clarifier
  - Central Driven
  - Peripheral Driven
- o Lamella Clarifier
  - Tube Type
  - Inclined Plate















#### SLUDGE DE-WATERING

Sludge De-watering is an integral part of water treatment. Primary or secondary sludge can impact the environment in harmful ways, and the cost to transfer sludge as a slurry can also increase operating costs for various industries. Our screw press and BFP-L series work well for low quantities of sludge with consistencies ranging from 1% - 3%. Our latest innovation, the triple wire belt filter press, BFP-T, works well for large volumes of sludge and can handle 0.7% - 5% consistency of slurry inlet. These machines can achieve 20% - 35% output consistency depending on the type of unit as well as nature of sludge.

## Sludge De-Watering

- Belt Filter Press
  - Twin Wire Press (BFP L)
  - Triple Wire Press (BFP T)
- Screw Press











#### BIOLOGICAL TREATMENT

Biological treatment is required to remove dissolved COD and BOD. Anaerobic treatment has a byproduct of methane gas, which can be used as a power source within a facility. Anaerobic followed by aerobic treatment is the optimal combination to maximize reduction in COD and BOD. The sludge digestor can further generate methane as a power source. Anaerobic treatment can be used in all agro-based processes.

#### **Biological Treatment**

- Aerobic Treatment
  - **MBBR**
  - **MBR**
  - SBR
- o Anaerobic Treatment
  - Upflow Anaerobic Sludge Blanket (UASB)
  - Anaerobic Sludge Digestor
  - Biogas Handling System













#### TERTIARY TREATMENT

Tertiary treatment is used after biological or secondary treatement to further reduce TSS to generally acceptable environmental norms for discharge. At this point in the process, a certain percentage of the water is acceptable to take back to the process and re-use. After treatment from filters, usually water TSS < 50 mg/L, while after disc filter, usually water TSS < 5 mg/L.

### **Tertiary Treatment**

- o Filters
  - Pressure Sand Filter
  - **Activated Carbon Filter**
  - Multi Grade Filter
  - Spray Filter
  - Continuous Backwash Filter
- Polishing Units
  - Disc Filter















### FILTRATION AND FURTHER TREATMENT

Water can usually be taken for filtration after tertiary treatment, or after secondary treatment. Ultra filtration treated water usually gives TSS < 10 mg/L and turbidity of 1 NTU. Reverse osmosis process is used to remove total dissolved solids, and is the only way to do so.

## **Membrane Treatment**

- Ultra Filtration (UF)
- o Reverse Osmosis (RO)
- o Demineralization Plant (DM)
- Water Softeners











### **EFFLUENT TREATMENT PLANTS AND WATER & WASTE WATER TREATMENT PLANTS**

We provide complete turnkey solutions for water treatment plants consist of all of the mentioned stages of water treatment. After the water has been treated through all the stages, it is safe to dispose as it will be within government mentioned environmental norms. Further, it is of such quality to be re-used in the process. This way the amount of fresh water consumption per day for our clients is reduced, along with the cost associated with it. We provide complete engineering, design and erection & commissioning supervision for all our projects.









### **SEWAGE TREATMENT PLANTS**

We support several engineering companies and EPC contractors in securing bids for large capacity sewage treatment plants and municipal projects. we supply our DAFs as sludge thickeners, triple wire belt filter presses and screw presses for sludge de-watering as well as most recently the disc filter for achieving TSS < 5-10 mg/L after the secondary clarifier.











#### INDUSTRIES WE SERVE

We have supplied equipment in 4 continents and over 20 countries, and can treat waste water in a wide range of applications, some are mentioned below:

- Pulp and Paper
- Automobiles
- Oil Refineries
- Fisheries
- Municipalities
- Food and Beverage
- Desalination
- Dairy
- Sugar Mills
- Chemical Processing Pharmaceuticals
- Poultry

- Airports
- Sewage Treatment
- Breweries
- Textile Industry
- Power
- Coffee Production
- Meat Processing
- Cement and Ceramics
- Edible Oils
- Steel Industry



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