



DIVA ENVITEC PVT. LTD.

Wastewater Treatment

REVIVING WATER SUSTAINABLY

info@aboutfilter.com



www.divaenvitec.com



About The Company

The company was set up by a group of professionals with rich and varied experience in design, development and implementation of viable solutions to ensure filtration requirements, who came together to form “Diva Envitec™” in 1992 to develop technology driven separation and filtration systems for the process industry. It was incorporated into a Pvt. Ltd company in year 2010.



Helping you lower
your carbon and
water footprint



Doing the root
cause analysis
of problem



Customized and
bespoke solutions



**DRIVING
INNOVATION IN
SEPARATION
SCIENCE &
WASTEWATER
TECHNOLOGIES**

Industries We Serve

- Pharmaceutical & API
- Chemicals & Fine Chemicals
- Sugar, Distillery & Bioethanol
- Petroleum & Petrochemical
- Pulp & Paper Industry
- Textile, Dye & Pigments
- Metals & Mining
- Food, Dairy & Beverage
- Biopharmaceuticals & Fermentation

35 +

Years of
Experience

7 +

Countries
Reached

1500 +

Clients
Served

Our Prominent Clients



CHD-Ox

Toxic Refractory COD Removal

Industries face challenges with high COD in wastewater, containing toxic, refractory compounds that are difficult to treat. Systems like Aerobic Ponds and MBBR often fail due to this toxicity, with antibiotics, pesticides, and micro-pollutants further threatening MBBR performance. In some cases the CHD-Ox treatment is enough to get the results.



CHD-Ox

Toxic Refractory COD Removal

CHD-Ox (Catalytic HyDro-Oxidation) is a proprietary technology developed by Diva Envitec Pvt Ltd that improves wastewater biodegradability before it enters the MBBR system. This advanced treatment leverages Cavitation, Nanoporex technology, proprietary catalysts, and oxidants to boost the generation of hydroxyl (OH) radicals and Reactive Oxygen Species (ROS).

The powerful OH radicals break down toxic, refractory, long-chain COD into more biodegradable compounds, enhancing the stability and efficiency of the MBBR process.

CHD-Ox is compatible with all existing CETP and ETP plants, making it an ideal pre-treatment solution for a wide range of industrial wastewater applications, ensuring more effective biological treatment. We offer retrofit solutions to improve performance in your existing ETP.



Rapid BOD, COD, and Odor Removal:

Efficiently eliminates biological oxygen demand (BOD), chemical oxygen demand (COD), and unpleasant odors from wastewater.



Broad-Spectrum Action:

Effectively targets a wide range of organic compounds present in the water.



Seamless Retrofit

Easily integrates with existing Effluent Treatment Plants (ETP) without significant modifications.



Short Retention Time

Typically requires only 4-6 hours, significantly reducing treatment time compared to conventional biological methods.



Time-Efficient Process

Offers a faster and more efficient solution compared to traditional biological treatment processes.



User-Friendly Operation

Simple to manage and control, ensuring hassle-free operation.



Supports Zero Liquid Discharge (ZLD)

Contributes to achieving industry ZLD targets, promoting sustainable wastewater management.



Dual Action Catalyst

Functions in both reducing and oxidizing environments, enhancing hydroxyl ion generation for more effective treatment



Compact Footprint

Requires minimal space, making it ideal for facilities with limited space.

Process Operation

Catalytic Hydro-Oxidation utilises either a Batch Reactor or Continuous Radial Flow Reactor for treatment. The process employs nano-particles of complex metals as catalysts, which generate hydroxyl ions in the presence of oxidants.

NANOPOREX nanobubbles enhance this process aided by cavitation in the main wastewater stream. CHD-Ox Treatment effectively degrades volatile acids and other organic compounds in the condensates, effluents breaking them down into simpler, non-toxic molecules which are easily biodegradable.

At Diva Envitec we are continuously innovating new catalyst formulations to optimise degradation rates, tailored to the specific wastewater chemistry of various industry verticals.

Technical Specifications

Effluent Design Flow: From 0.1 m³/Hour to 100 m³/Hour

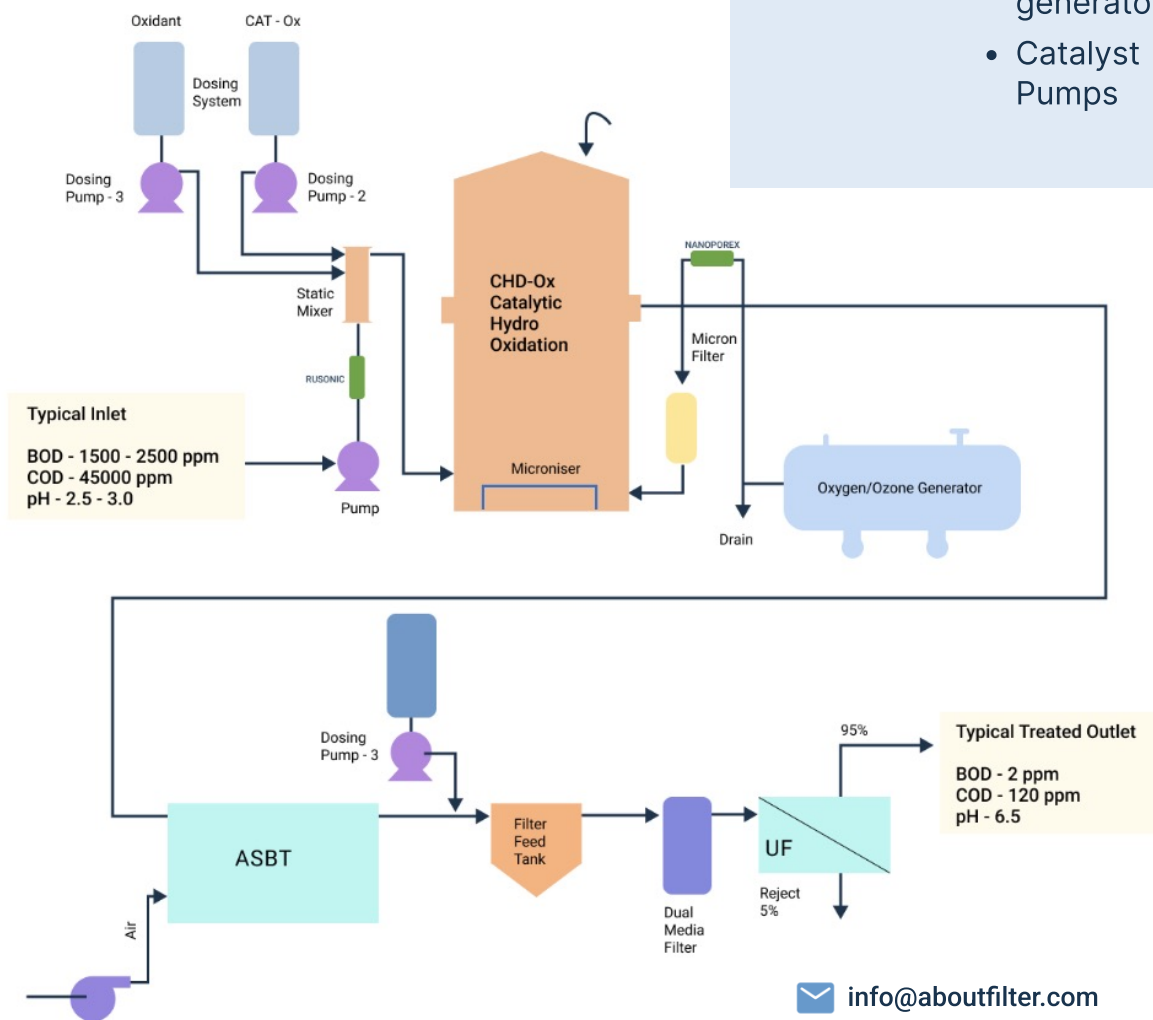
pH: 1-14

Temperature: 25-80 Deg C

BOD: Feeds with Low BOD

COD Refractory: < 60,000 ppm Organic Toxic Refractory

- Equipment**
- Retrofit Component to be installed in the existing ETP
 - Reactor of SS / FRP or Epoxy Coated MS
 - Nanoporex
 - Rusonic Cavitation
 - SS or CPVC piping
 - Air Compressor or Oxygen generator
 - Catalyst and Oxidant Dosing Pumps



1. Pesticide

Degrades persistent organic pollutants (POPs), reducing toxicity.

2. Recalcitrant COD

Breaks down stubborn non-biodegradable organic contaminants

3. Toxic COD

Neutralises hazardous toxic organic compounds.

4. STP

Enhances oxidation of residual organics, improves effluent treatment.

5. API ETP

Breaks down complex pharmaceutical residues.

6. TANNERIES

Reduces heavy metals, lowers organic load.



7. Dye Effluent

Degrades synthetic dyes, reduces color.

8. Textile Effluent

Oxidises synthetic dyes, lowers COD.

9. Distillery

Reduces organic content, breaks residual COD after Biodigestion

10. Condensate Polishing in Sugar/Distillery

Treats condensate, oxidises organics making water for reuse

11. Refinery

Oxidises hydrocarbons, reduces sulfur compounds and recalcitrant organics.

12. Oil & Gas

Degrades petrochemical residues, lowers COD and hazardous contaminants.



Water Treatability Studies

Diva Envitec Pvt Ltd operates an Innovation Center in Mumbai, where we conduct comprehensive treatability studies on client-provided samples. By covering minimal logistical costs, you can access this facility and receive a detailed assessment of the most effective treatment methodology tailored to your specific wastewater stream.



Contaminants We Treat

- Acetone
- Acetone-Amine Impurities
- Amine Dimers
- Ammoniacal Nitrogen
- Ammonium Chloride (NH₄Cl)
- Amino Naphthol Disulphonic Acid Sodium Salt
- P- Cresol
- Cyanides
- DD3: Sodium Acetate, Sodium Ferrocyanide, Rosin, Sodium Sulphite
- DD7: Sodium Acetate, Sodium Ferrocyanide, Copper Sulphate, Rosin, Sodium Sulphite
- D-40
- Fluorides
- Hexavalent Chromium
- Hydrothioic Acid (HSCN)
- Iron Oxide
- Iso-Thiocyanate
- Latex (recovery project)
- Methyl Ethyl Ketone (MEK)
- Methanol
- Nitro Cresol (DNOC & DNPC)
- Naphtha
- Oil and Grease
- Para Amino Phenol
- Phenol
- Phenolic Compounds
- Picric Acid
- Phosphates
- Phosphoric Acid (18-20% concentration)
- Polyethylene Glycol
- Polyvinyl Alcohol (recovery project)
- Sulfides
- Sodium Chloride (NaCl)
- Sodium Hydroxide (NaOH)
- Sodium Sulphate
- Sodium Thiocyanate (NaSCN)
- Solvent Black 46: Sodium Acetate
- Solvent Red: Sodium Acetate, Residual Dye
- Sulphate
- Sulfolane
- Toluene
- Titanium Oxide
- Trace Aromatic Amines
- Yttrium Chloride

And many more...



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