

About Us

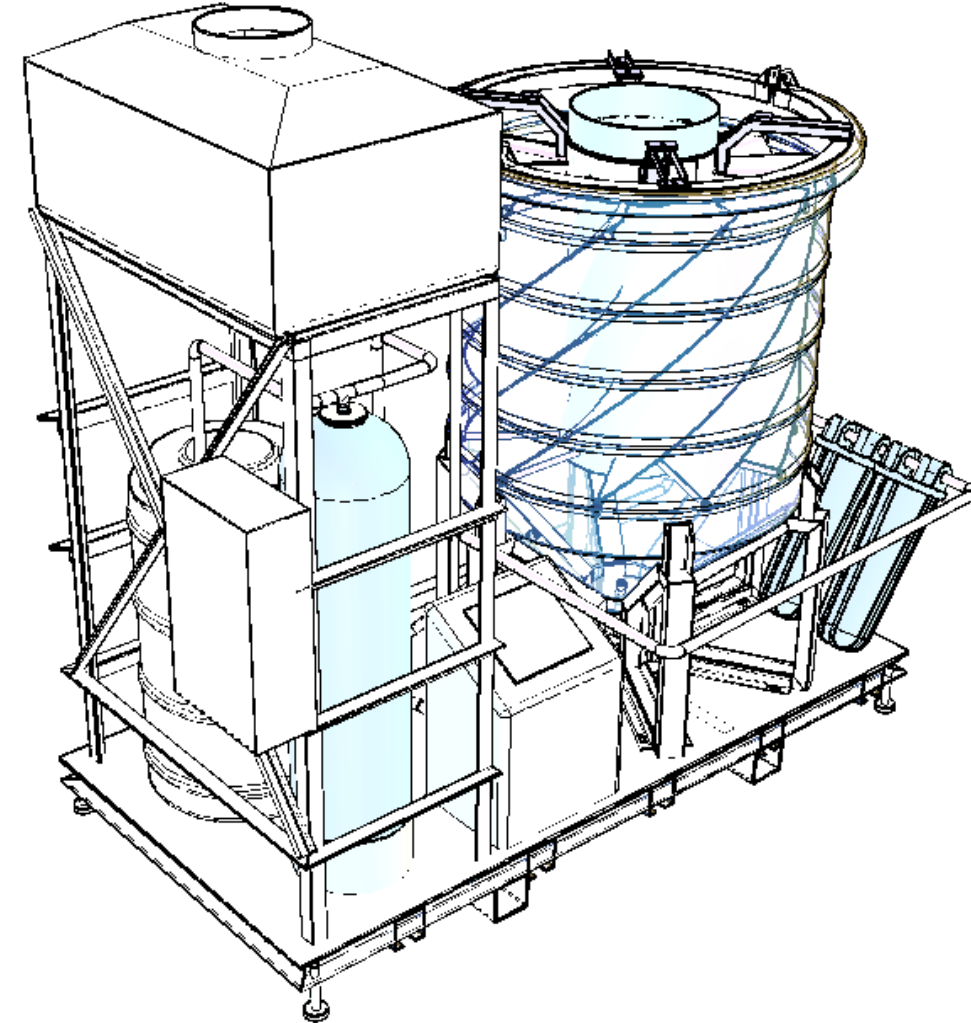
Xpredict Automation Solutions is a Product based Company with Strong Research emphasis for indigenization and development of technology products in the field of Water, Water treatment, Machines and Equipment, IoT and product automation sectors.

Vision

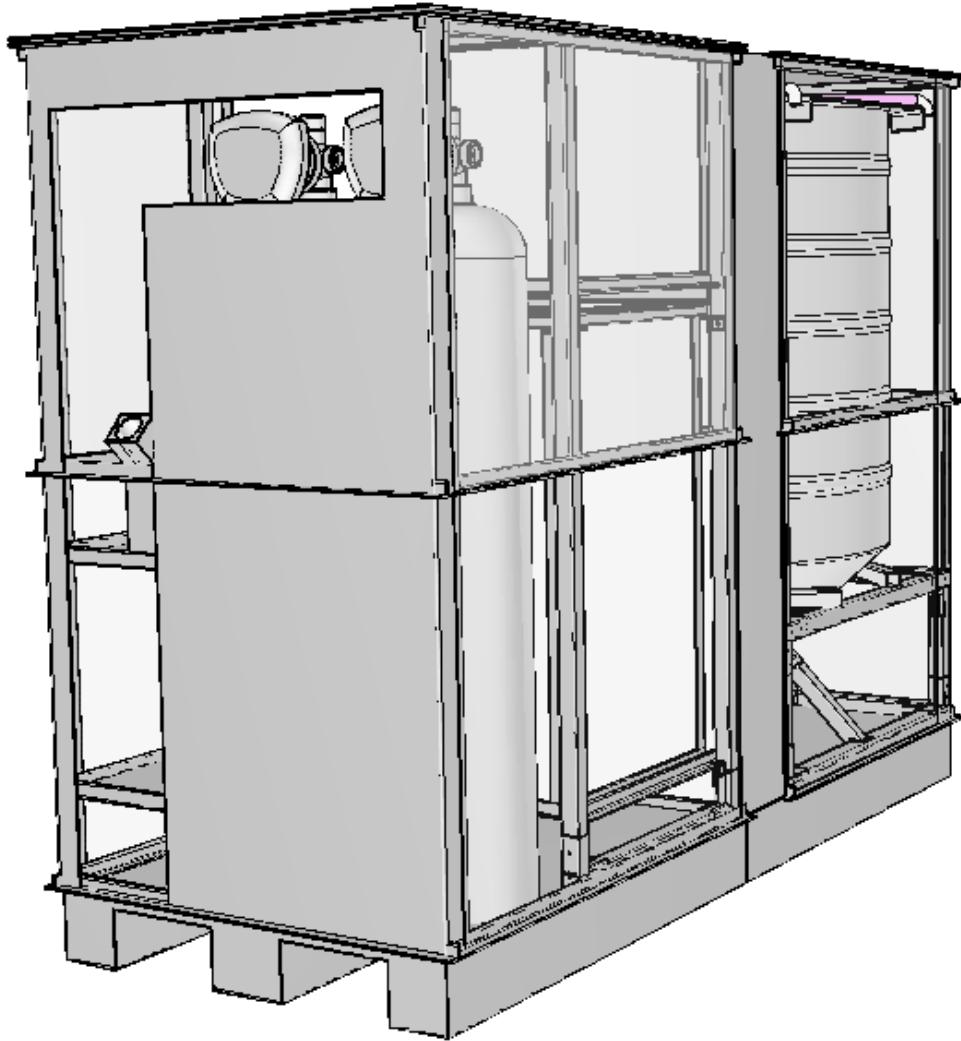
- Innovation driven by commercializeable social and business needs
- Indigenization of engineering products backed by strong research
- Improving environmental and social standards via sustainable business

Milestones

- Start: 2018
- First prototype of HydRec: 2019
- First prototype of controllers and allied sub-systems: 2019
- First trial run of Hydrec at customer location: 2020
- India's first low cost high through put peristaltic pumps and dosing systems: 2021
- Standardisation, manufacturing plant set-up and start of commercial installation of HydRec: 2022



Overview



HydRec is a compact, modular, completely automated Waste water treatment and water reclaimer plant

Salient features

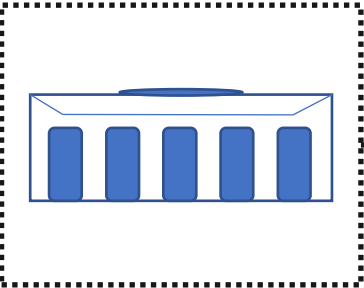
- Completely mobile with just 25sqft for a capacity of 25KLD
- The treated water is completely re-used for primary purpose; reducing the effective total water consumption by up to 75%
- Utilizes combination of treatment processes for application on all types of waste water
- Completely automatic operation

Advantages

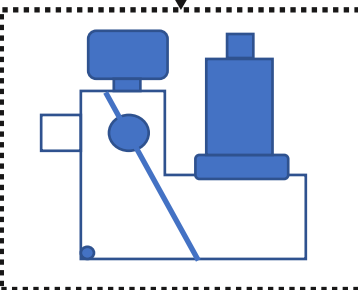
- Proven to reduce soap contents up to 99%,
- Generates safe re-consumable, disinfected treated water with no or minimal chemical usage
- Almost nill increase in TDS of the treated water compared to feed water, BOD, TSS , COD all parameters will virtually remain unchanged between fresh supply water and treated water.

HydRec EZ

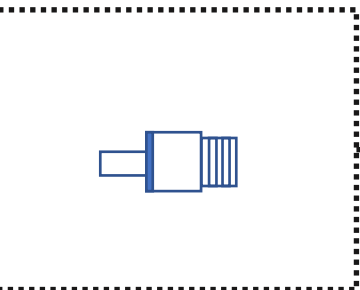
RAW WATER TANK



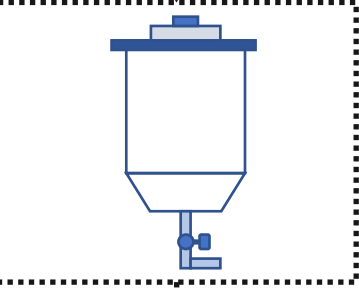
LIFTING STATION



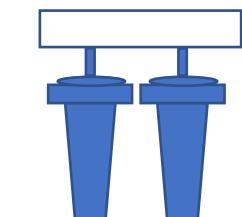
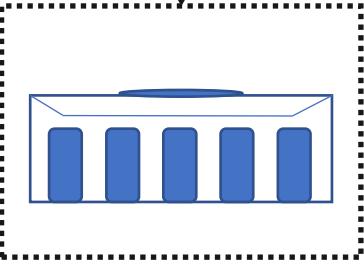
MIXING CHAMBER



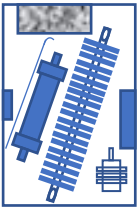
HydRec CLARIFIER



CLEAN WATER TANK



POST FILTRATION

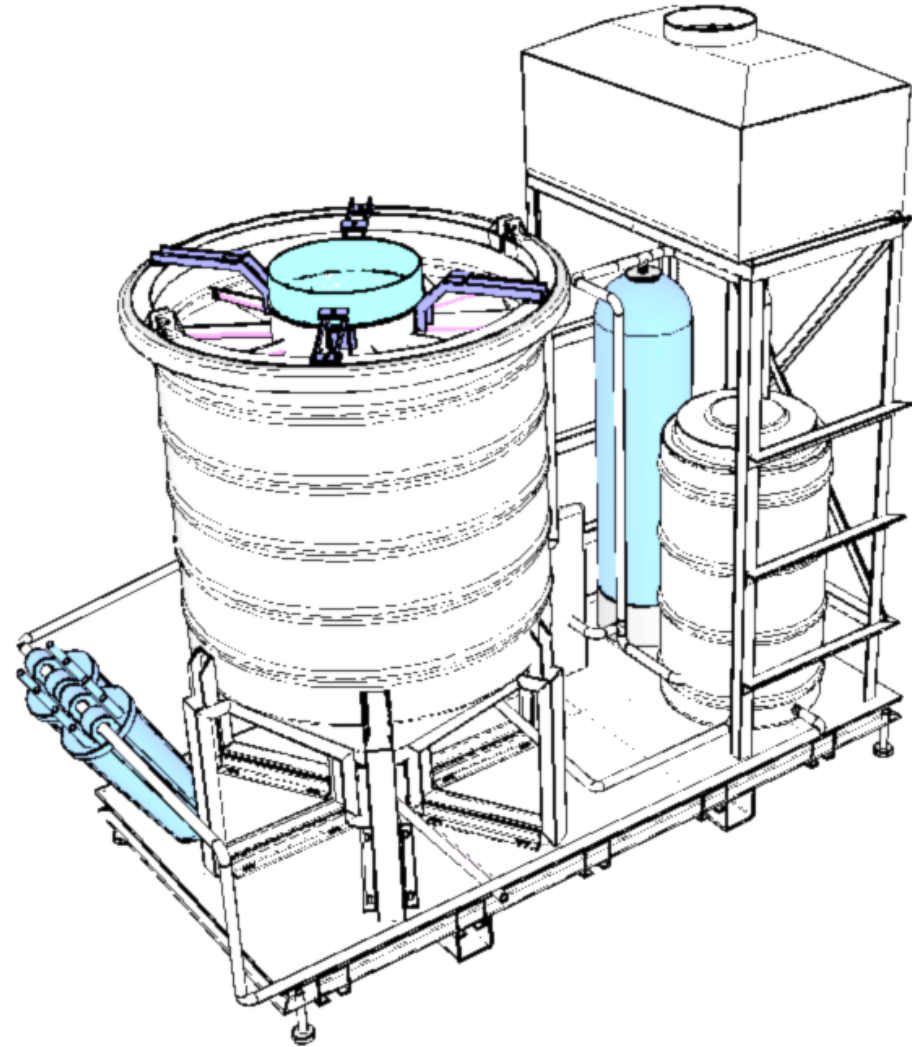


OZONATOR

APPLICATIONS OF HYDREC EZ

- LAUNDRY WASTEWATER TREATMENT
- GREY WASTEWATER TREATMENT
- SEWAGE WASTEWATER TREATMENT
- CAR WASH WASTEWATER TREATMENT

HydRec- Laundry



Laundry requires fresh water that can be easily used for potable purpose with minimal treatment such as filtration. Around 10% of the total industrial water consumption globally are used for laundry and cleaning. Statistics show, water used for washing 1 KG of cloth equals drinking needs of 5 people for a day.

HydRec reclaims up to 85% of grey water to be used back in laundry at just 2 paisa per litre and can remove up to 99% soap content along with 99% reduction in TSS, COD and BOD. The system is completely mobile and can be installed without any site preparation, masonry within couple of hours and requires no man power to operate.



values of detergent wastewater parameters

Sr. no	Tests	units	results
1.	pH value	-----	7.9
2.	Total suspended solids	mg/l	70.0
3.	Total dissolved solids	mg/l	462.0
4.	Oil and grease	mg/l	<1.0(BDL)
5.	Total Hardness as CaCo3	mg/l	262.0
6.	Biochemical oxygen demand,3Days at 27deg C	mg/l	120.0
7.	Chemical oxygen demand	mg/l	732.0
8.	Copper as Cu	mg/l	<0.02(BDL)
9.	Zinc as Zn	mg/l	<0.03(BDL)
10.	Nickel as Ni	mg/l	<0.02(BDL)
11.	Calcium	mg/l	57.0
12.	Iron	mg/l	<0.22(BDL)
13.	Lead as Pb	mg/l	<0.03(BDL)
14.	E. coli	MPN/100 ml	<1

values of parameters of effluent from EC reactor

Sr. no	Tests	Units	Results
1.	pH value	-----	8.1
2.	Total suspended solids	mg/l	2.0
3.	Total dissolved solids	mg/l	460.0
4.	Oil and grease	mg/l	<1.0(BDL)
5.	Total Hardness as CaCo3	mg/l	166.0
6.	Biochemical oxygen demand,3Days at 27deg C	mg/l	3.0
7.	Chemical oxygen demand	mg/l	10.0
8.	Copper as Cu	mg/l	<0.02(BDL)
9.	Zinc as Zn	mg/l	<0.03(BDL)
10.	Nickel as Ni	mg/l	<0.02(BDL)
11.	Calcium	mg/l	38.0
12.	Iron	mg/l	<0.22(BDL)
13.	Lead as Pb	mg/l	<0.03(BDL)
14.	E. coli	MPN/100ml	<1

This showed that electrocoagulation combining with other treatment processes can treat textile, dyeing, pharma and tanneries industries wastewater.

Economic

Sustainability of Business

With HydRec, any standard industry setup can reclaim up to 80% of their basic operational necessity which is water back to Primary purpose. Hydrec is completely modular/portable, and occupies only 25sqft. This reduces operational and setup costs, increases business continuity. HydRec not only makes business economically profitable, but also make them sustainable and environmentally friendly.

Environmental

Conservation of natural resource

HydRec helps conserve

- Land: HydRec has a through-put of 781 Litres per square foot per day. That is around 20 times the comparable common market value.
- Water: Reclaims 85% of effluent water and disinfects it for use back in to primary purpose
- Energy: Consumes only 0.05 Watts per litre of water treated

Social

Availability of natural resource

HydRec reclaims water at nearly 2 paise per liter. This not just reduces costs of supply water but also increases availability of fresh water for other social/domestic consumption. With addition of simple TDS removal systems, output water of HydRec is fit for human consumption.

HydRec for Waste Water Treatment

SALIENT FEATURES	ADVANTAGES	COMPARISON WITH EXISTING TECHNOLOGY	AFFORDABILITY FOR LUNDARY INDUSTRY
Fully automatic plant, Compact and modular	No manhours for operation	Area required for 25kld is 32sqft as compared to other ETPs with same capacity whose minimum area required is above 100sqft	50% REDUCTION IN WATER BILL - Reclaims up to 25KLD back to washing @85%
25sqft unit for a capacity of 25KLD	Low footprint saves on per sqft cost of ownership/ rentals	Very minimal sludge generation per liter of water	Reduction in source water consumption
Treated water is 80% recycled and re-used	No civil construction required	Power Consumption is 25% of comparable ETPs in market	Consumes less than 1 KW of energy
Operator less plant	Designed and Proven to reduce soap contents up to 99%,	CAPEX AND OPEX is lesser than conventional system because it is plug and play modular system made of MS and Industrial grade plastics and pallets	Effortless operation
Output water quality parameters within the permissible limits	Treated water is disinfected by ozonation		2 paisa per liter of reclamation

HydRec Installations

Hydrec has been installed in various water conditions and has consistently proven effective and efficient. The System has been deployed for treated Effluents of commercial laundry where output is used for complete re-use in washing, Community STP supplying water for horticulture, residential school, where output is used for gardening purposes

Residential School STP



2019

Commercial Laundry ETP



2022

Community STP



2022

Industrial STP



2023

Team



Kirti Bardiya B.E, MSc
Managing Director

MSc WATER AND WASTE WATER TREATMENT (CRANFIELD UNI – UK)



Gajanana Hegde B.E, MSc
CEO

MSc THERMAL POWER (CRANFIELD UNI -UK)



Girish Kumar B.E, MSc
CMO

MSc MECHATRONICS (KINGSTON UNI – UK)



Nakul Devaiah B.E, MSc
COO

MSc MECHATRONICS (KINGSTON UNI – UK)



Arun B
Technical Advisor



Sinanandam N B.E,
Product Manager



Paveen
Product Engineer



Madhu S
Product Engineer