

LIFE

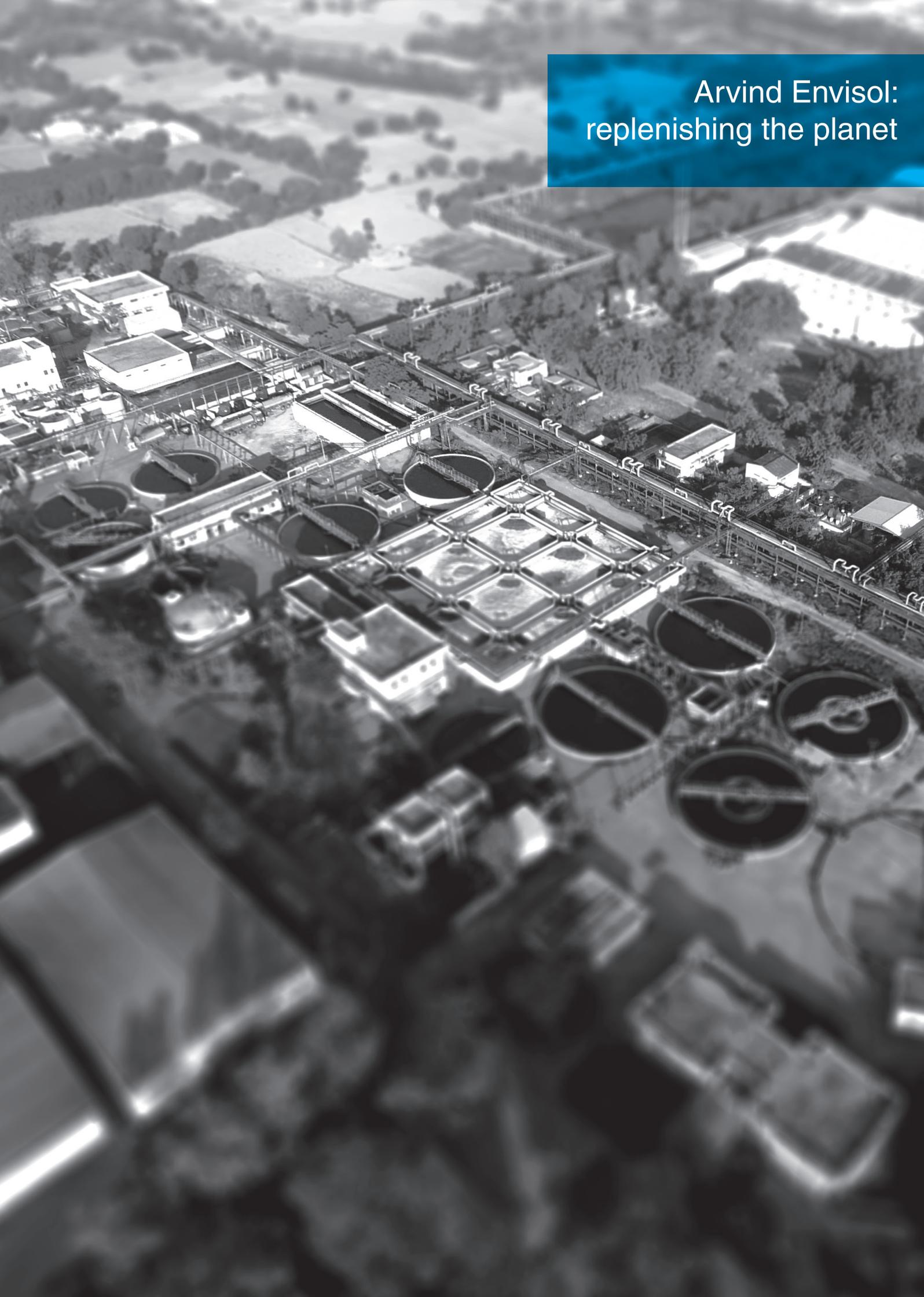


WHERE THERE IS WATER, THERE IS

LIFE

ENVISOL  
ARVIND

PRESERVING ENVIRONMENT, PRESERVING LIFE

An aerial, high-angle photograph of a large industrial facility, likely a water treatment plant. The image shows a complex network of pipes, walkways, and various structures. In the foreground and middle ground, there are several large, circular tanks and rectangular basins, some containing water. The facility is surrounded by trees and greenery. In the top right corner, there is a teal-colored rectangular box containing white text.

Arvind Envisol:  
replenishing the planet

one drop  
at a time

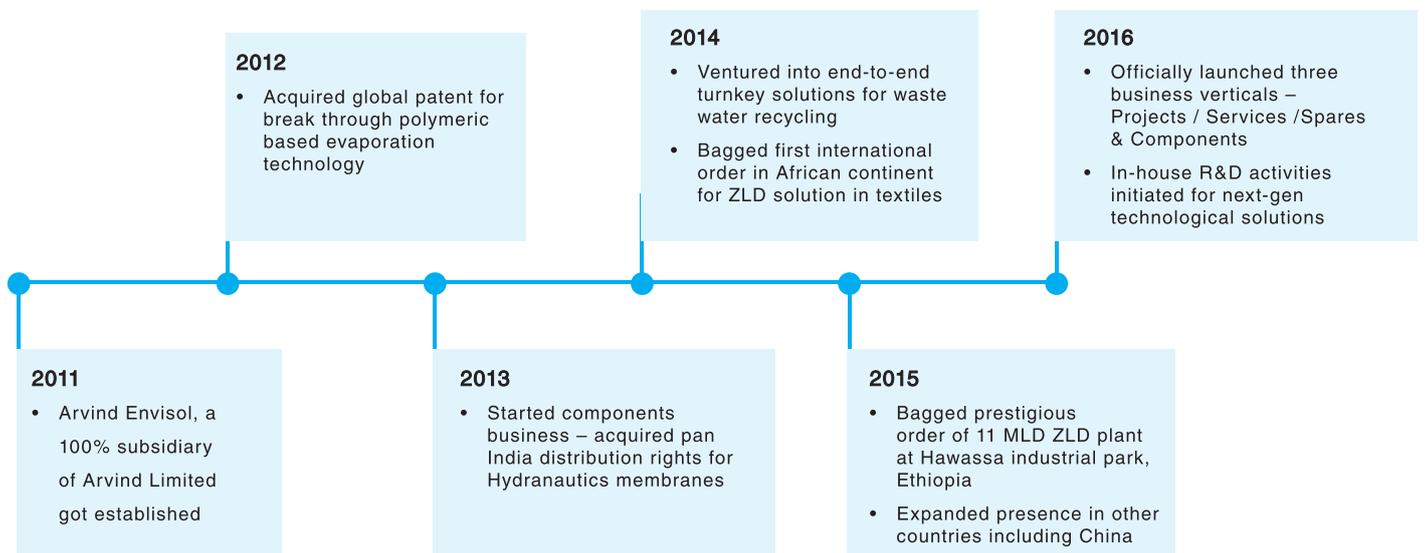


Today, planet Earth is battling a crisis – the crisis of limited water. Governments and communities across the world are constantly seeking solutions to manage water sustainability for survival of life on the planet. Against this backdrop, it is natural for industries, spanning verticals, to optimize their limited water resources to be able to connect profitability with sustainability. This is where Arvind Envisol comes in with a range of innovative, state-of-the-art waste water management technologies, products and services, customized for specific requirements of industries in India and across the world.

Launched in 2011, as part of Arvind Ltd., the 1.3 billion USD global textile conglomerate, Arvind Envisol is a world-class water management company providing end-to-end solutions for water treatment, industrial waste water treatment, sewage treatment and zero liquid discharge solutions at minimal costs. The company's patented polymeric film evaporation technology brings you the world's most economical evaporation technology, minimizing your operating costs and its zero liquid discharge solutions show how to combine optimum sustainability with your business's profitability.

Today, Arvind Envisol is a company with a growing portfolio of clients who trust us with the responsibility of purifying, replenishing and recycling their water resources. For, at Envisol, we believe that water is truly the most precious resource we have to safeguard health as well as generate wealth for planet Earth.

# Envisol goes the extra mile in water conservation



One-stop solution provider for water treatment needs



100% external debt free company with an excellent track record in market placement



Strong pre-qualification references



so Geeta doesn't  
have to

## ADVANTAGE ENVISOL

100+

Million litres of waste and  
waste water processed per day

120+

Projects executed till date

22

Registered patents  
across the world

- End-to-end offerings across the entire water chain including projects, spares and services
- Single window for the best globally available technologies across the entire water treatment spectrum (either through own patents or licensed partners)
- An extensive technology portfolio along with in-house R&D Center
- Proven process know-how and experience
- Experience as a reclamation plant operator
- Multinational experience, which ensures an understanding of different local needs
- Strong team of over 400 people that include industry veterans, respected by customers, vendors and competitors

## BUSINESS VERTICALS

### PROJECTS AND EPC

- Water treatment
- Industrial effluent treatment across sectors
- Sewage treatment
- Desalination
- High purity water solutions
- De-mineralization
- Drinking water systems
- Special capabilities on water recycling and ZLD

### SPARES, CHEMICALS & COMPONENTS

- Membranes – UF/NF/RO/MBR
- Pressure tubes
- Dosing systems & Pumps
- High pressure pumps
- Filter press
- Ozonators
- FRP tanks
- Micron cartridge filters - spun and wound
- Antiscalants, membrane cleaning chemicals and biocides
- Colour removal chemicals, coagulants and polyelectrolytes
- Ion exchange resins

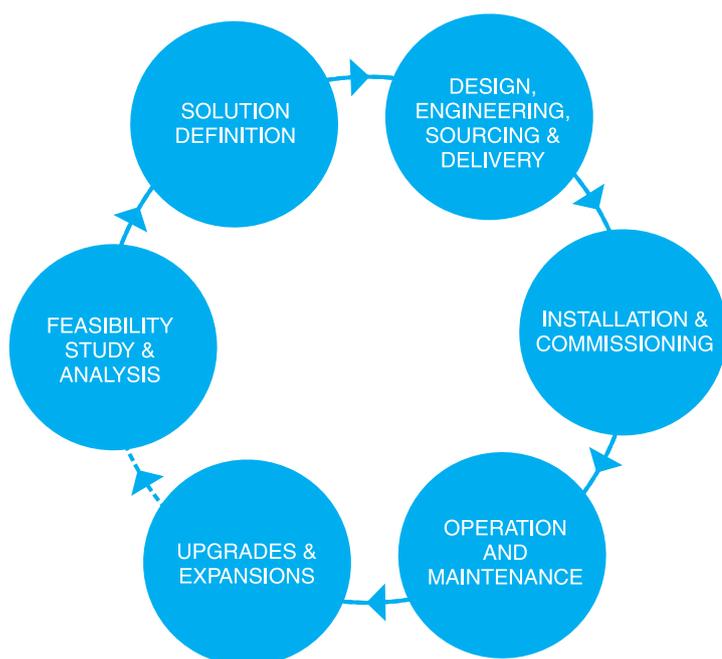
### SERVICES

- Operations & maintenance
- Retention based services
- Retrofitting
- Water audits
- Water testing
- Training and skill development

and your  
success

## PROJECTS/EPC

### TURNKEY EPC PROJECTS



*We enable sustainable operations*

### SUSTAINABLE OUTCOMES

#### CUSTOMERS

Clean, efficient operations and high return on investment

#### SUPPLIERS

We build partnerships with our suppliers on a long term basis

#### EMPLOYEES

Meaningful and rewarding jobs

#### SOCIETY

Improved resource efficiency, clean environment, prosperity

#### SHAREHOLDERS

Investing in a responsible company

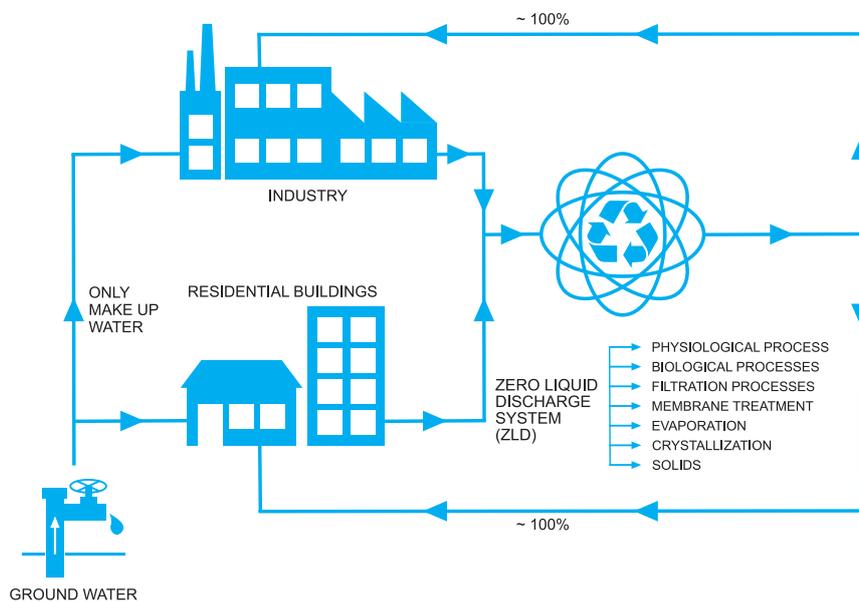
#### ECOLOGICAL FOOTPRINT

Technologies with low impact

## TECHNOLOGICAL CAPABILITIES

### ZERO LIQUID DISCHARGE

At Arvind Envisol, we believe that Zero Liquid Discharge (ZLD) solutions is the key to the future of water resource sustainability. ZLD is a water treatment process in which all the waste water is purified and recycled leaving zero discharge at the end of each treatment cycle.





into a  
sustainable future

Technology is the key resource that we leverage to add value to our customers and give back to the environment as a whole. The very latest in ultra-modern technology as well as innovation in the development of new and improved technology is what sets us truly apart. The wide spectrum of water treatment systems that Envisol offers include:

PRIMARY TREATMENT

SECONDARY TREATMENT (BIOLOGICAL PROCESSES)

FILTRATION SYSTEMS

ADVANCED OXIDATION

MEMBRANE BASED TDS REDUCTION

EVAPORATION TECHNOLOGIES

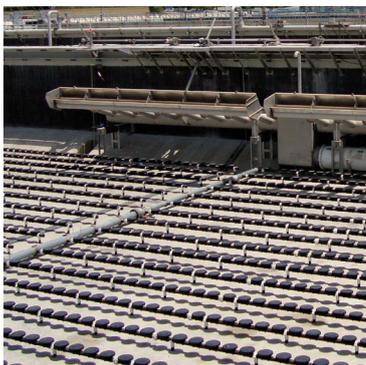
SLUDGE MANAGEMENT TECHNOLOGIES

# WATER TREATMENT SYSTEMS



## PRIMARY TREATMENT

- Clarifiers and clariflocculators
- Tube settlers/parallel plate separators
- High rate solid contact clarifiers
- Dissolved Air Flootation (DAF)
- E-EnviFlocx electro coagulation system
- Pipe flocculator



## SECONDARY TREATMENT (BIOLOGICAL PROCESSES)

- Activated Sludge Process (ASP)
- Extended Aeration System (EAS)
- Upflow Anaerobic Sludge Blanket Reactor (UASB)
- Sequential Batch Reactor (SBR)
- Moving Bed Bio Reactor (MBBR)
- Membrane Bio Reactor (MBR) - side stream and submerged



## FILTRATION SYSTEM

- Micron Cartridge Filtration (MCF)
- Micron Disc Filtration (MDF)
- Activated Carbon Filter (ACF) and Media Filters
- Ultra filtration (UF)



## ADVANCED OXIDATION SYSTEM

- Ozonation
- Envi-Oxy system
- Envi-Hydrox system



## MEMBRANE BASED TDS REDUCTION

- Nano Filtration (NF)
- Reverse Osmosis (RO) – spiral and disc
- Forward Osmosis (FO) System
- Smart RO System



## EVAPORATION TECHNOLOGIES

- Mechanical Vapor Recompression (MVR)
- Multi Effect Distillation (MED)
- Multi Effect Evaporators (MEE) and Crystallizers
- Multi Stage Flash (MSF) Evaporators
- Agitated Thin Film Dryer (ATFD)



## SLUDGE MANAGEMENT TECHNOLOGIES

- Sludge digester
- Incinerator
- Screw press
- Centrifuge
- Filter press
- Belt press



## PATENTED POLYMERIC FILM EVAPORATION TECHNOLOGY (PFET)

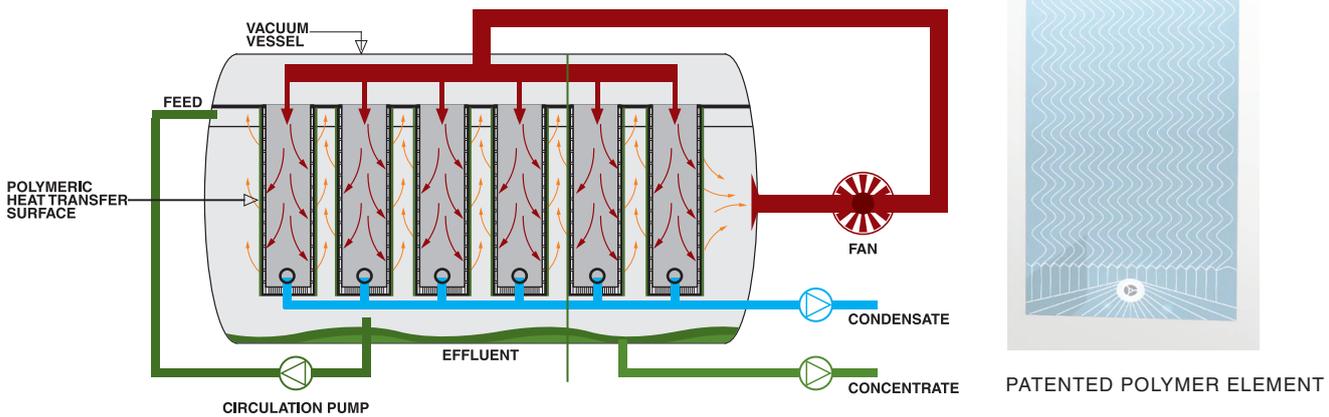
### SUSTAINABLE ZERO LIQUID DISCHARGE AT LOWEST OPERATING COSTS USING OUR PATENTED POLYMERIC FILM BASED EVAPORATION TECHNOLOGY.

Evaporation is the most efficient technology that works on almost all effluents but it has always been an energy intensive process. At Envisol, we break this stereotype and introduce you to the world's most economical, sustainable, highly effective and fully automated polymeric film evaporation technology based on mechanical vapour re-compression technique.

### FEATURES

- PFET allows convenient retrofitting in existing schemes in order to derive maximum advantage over MEE
- Lowers the capex of boilers as PFET system requires a much lesser capacity boiler
- No need for major civil construction, only vessel foundation required
- Fully automated system with remote monitoring; no dedicated manpower required
- VFD system supplied to allow flexibility in operations and energy usage optimization
- Standard and high quality products used to increase the system longevity
- Available in standard capacities of 50, 100, 150, 200, 250, 300, 450 and 500 KLD systems. Bigger capacity systems available on request
- Area required for installing the system in the range of 225 m<sup>2</sup> to 1350m<sup>2</sup>

## WORKING PRINCIPLE

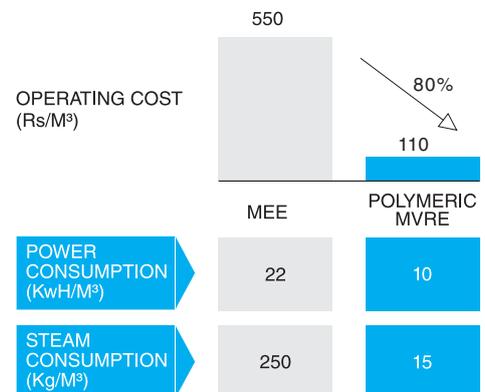


**Works on the principle of mechanical vapour re-compression under vacuum. The energy source is the latent heat released when the vapour evaporated from the waste water is condensed.**

- Pre heated effluent is distributed on the polymeric bags placed inside the evaporator vessel at approx. 190mbar in vacuum
- Steam/pressurized vapour is injected into the unique “S” shaped pattern through the veins of the polymeric bag
- This steam passes on the latent heat to the effluent on the outside surface of the polymeric bag, resulting in effluent evaporation and conversion to vapour
- The vapour is sucked by a high speed fan and compressed by 20mbar to increase the vapour temperature and injected back again into the “S” shaped veins of the polymeric bag
- On the other hand, the saturated vapour inside of the veins condenses after losing latent heat and is collected as pure condensate
- The process is again repeated using the re-circulation pump which draws the effluent again and distributes it on the polymeric bag

## KEY ADVANTAGES OVER MEE

- Less prone to scale and corrosion in comparison to metals, easy cleaning process
- Can operate on low pH, higher organic load and coloured effluent
- Lowest operating costs; steam is used for covering the minimal energy loss and saves up to 80% energy for ZLD systems as compared to other prevailing technologies





## SERVICES

### VALUED SERVICES, COVERING THE END TO END SPECTRUM OF THE WATER CYCLE

#### OPERATION & MAINTENANCE

- Complete responsibility of operating and maintaining the customer's plant
- Allows the customer to focus on their core activities

#### RETENTION BASED SERVICES

- Annual on-site maintenance and checking of provided equipment based on contracts

#### REVAMP AND RETROFITTING

- Upgradation, modification or expansion of the existing WWTP & WTP

#### WATER TESTING

- Envi – Lab facility to test the customer's source water, effluent and report the required parameters
- Spectrometer

#### WATER AUDIT & CONSULTING

- Review of existing design parameters and quality of source
- Recommendation to enhance the performance and longevity of the existing plant

#### TRAINING AND SKILL DEVELOPMENT

- Envi – Learn training packages
- Government approved training centers
- Studies cover both theoretical and practical knowledge applications

## SPARES

Our world class ultra modern spare parts and chemicals are just what your water treatment plant needs to keep it running efficiently round the clock and round the year.

### Membranes – UF/NF/RO/MBR



Arvind Envisol is the authorized pan-India sales and service partner for Hydranautics membranes - a global leader in membrane innovations that uses the cutting edge of technology



Pressure Tubes



Filter Press



Dosing Systems & Pumps



High pressure pumps



Ozonators



Micron cartridge filters - spun and wound



Colour removal chemicals, coagulants and polyelectrolytes



Antiscalants, membrane cleaning chemicals and biocides



Ion exchange resins



FRP tanks

## INSTALLATION REFERENCES



11 MLD ZERO LIQUID DISCHARGE PLANT AT HAWASSA INDUSTRIAL PARK, ETHIOPIA



17 MLD ZLD PLANT AT ARVIND LIMITED, SANTEJ



10 MLD UF AND RO AT JASOL AND BALOTRA, RAJASTHAN



## OUR ESTEEMED CLIENTELE

Arvind Envisol caters to a wide range of industries that include: Textiles | Automotives | Energy | Power | Oil & Gas | Infrastructure | Food & Beverages | Pharmaceuticals | Chemicals | Electronics | Metals | Manufacturing | Plastics & other industries or government bodies that may require water recycling or treatment solutions.



ARULPURAM  
**CETP**

VEERAPANDI  
**CETP**

VANITEC  
**CETP**

KASIPALAYAM  
**CETP**



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