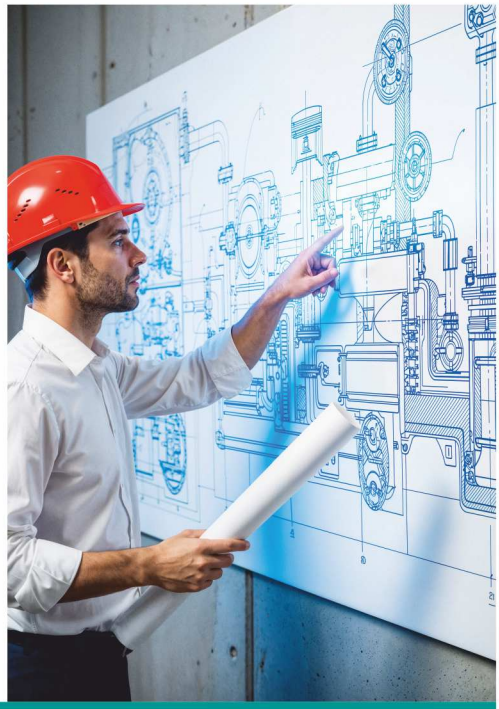
nidhi®
ENGINEERS

- Zero Liquid Discharge (ZLD)
- Evaporation
- Crystallization
- Distillation
- Product Recovery

Green ZLD System...

About us



Since its inception in 2006, Nidhi Engineers has emerged as a leader in industrial process engineering, delivering advanced and reliable solutions across India. An ISO 9001:2015 certified company, we specialize in Evaporation, Distillation, Vacuum and Heat Transfer Technologies, with a strong focus on Zero Liquid Discharge (ZLD) systems and customized product recovery plants.

Our facility, located in Bakrol Industrial Area, is equipped with complete in-house manufacturing capabilities including fabrication, machining, welding, and testing and R&D ensuring unmatched precision and quality control. Our corporate office in Ahmedabad manages operations and client coordination across diverse industries.

We offer complete solutions for :

- Design, Engineering, Manufacture, Supply, Erection, and Commissioning
- Turnkey project execution with full customization
- High-performance systems designed for long-term efficiency

Our Product Portfolio Includes :

- Zero Liquid Discharge Plant
- Stripper System
- Multiple Effect Evaporator
- Agitated thin film Dryer
- Sludge Dryer
- ERS / MVRE
- Hybrid MEE Plant
- Electrical Evaporator
- Air Pollution Control Plant
- Heat Exchanger
- Reactors & Vessels
- Distillation
- Crystallization
- Vacuum Ejector System

SERVICES

- Plant Revamping Services
- Capacity Expansion
- Operation and Maintenance Contract
- Erection and Commissioning Services

Serving industries such as Chemicals, Pharmaceuticals, Dyes & Intermediates, Textiles, Food Color, Dairy, Castor Oil, and Automotive, Nidhi Engineers is a trusted partner for both new and modernization projects. Our commitment to engineering excellence, on-time delivery, and after-sales support has helped us build lasting relationships across sectors.

Our Mission

To provide customized solutions with a sustainable and economical approach without compromising on quality or service.

Our Vision

To be the global expert in Evaporation solutions, offering compact, economical, and eco-friendly systems with zero carbon footprint and no compromise on performance.

Quality Policy

Nidhi Engineers is committed to serve products best in quality and services and having ISO 9001:2015 Certification for Quality Management System. We continuously improve our system based on the self-inspection and daily base experience.

TECHNOLOGIES

ZERO LOQUID DISCHARGE

- Multiple Effect Evaporator
- Electrical Evaporator
- Hybrid MEE Plant
- ERS / MVRE
- Stripper System
- Agitated Thin Film Dryer (ATFD)
- ETP Sludge Dryer
- Nutch Filter
- Pusher Centrifuge
- Basket Centrifuge
- Crystallizer

EVAPORATIONS

- Falling Film Evaporator
- Forced Circulation Evaporator
- Falling+Forced Evaporator
- Multiple Effect Evaporator
- ERS/MVRE
- Hybrid MEE Plant
- Skid Mounted Evaporators
- Electric Evaporators

Multiple Effect Evaporator (MEE)

With years of industry experience and technical excellence, **Nidhi Engineers** has established itself as a trusted manufacturer of high-performance **Multiple Effect Evaporator (MEE) Plants.** Backed by a team of skilled professionals, we deliver robust, efficient, and cost-effective evaporation solutions tailored to industrial needs.

A Multiple Effect Evaporator is designed to maximize energy efficiency by reusing steam across multiple stages to evaporate water or solvents. Engineered using high-grade raw materials and aligned with international standards, our MEE systems are known for :

- Rugged construction
- Long operational life
- Low energy consumption
- Static Design
- Lower maintenance
- Lower Operating Cost

These plants are widely used in industries such as **Pharmaceuticals, Chemicals, Dye Intermediates, Textiles, Food & Dairy, Automotive,** and more, where concentrated effluent or product recovery is essential.

We offer comprehensive services including **Design, Manufacturing, Supply, Erection, and Commissioning** of various types of MEE systems, including :

- Falling Film Evaporator
- Forced Circulation Evaporator
- Combination Evaporator (Falling Film + Forced Circulation)

Our systems are customized to meet the specific process requirements of each client, ensuring optimal performance and compliance with environmental standards.

Multiple Effect Evaporator Traditional

Double Effect MEE

Triple Effect MEE

Quadruple Effect MEE

Agitated Thin Film Dryer (ATFD)

Agitated Thin film Dyrer is used for the continuous operation to dry the concentrated slurry coming from the evaporation <5% moisture. ATFD needs steam / Thermic fluid as heating media. It can be used for single salt / multi salt production also wildly use for ZLD application.

Key Features :

- Continuous operation for single or multi-salt production
- Produces salts <5% moisture
- Eliminates centrifuge-mother liquor issues
- Low residence time, minimal fouling
- Suitable for steam or thermic fluid heating
- MOC Available in SS304, SS316L, Duplex Blades

Targeted Industries :

- Pharmaceuticals Industries
- API & Intermediate Industries
- Dyes & Intermediate Industries
- Chemical Industries
- Textiles Industries
- Food & Beverage Industries

Stripper Systems

We are specialized in a stripper system which is used to remove low boiling solvents from pre-treated effluent. We offer both packed bed and trap type stripping columns specially designed to support zero liquid discharge (ZLD). This system efficiently removes IPA, methanol and other low-boiling compounds from effluent water using steam as heating media.

Key Features :

- Efficient Solvent Removal
- Compact Design
- High-performance Packing
- Steam-Based Operation
- Custom Design
- Comply Government Norms for ZLD

Targeted Industries :

- Pharmaceuticals Industries
- API & Intermediate Industries
- Chemical Industries
- Dyes & Intermediate Industries
- Chemical Industries
- Textiles Industries
- Food & Beverage Industries

MEE Skid Mounted System

We are expertise in compact Single and multiple effect prefabricated and pretested portable skid mounted packages MEE Plant for ZLD and various Product Concentration. This model is sustainable and economical in terms of capex, opex and footprint having optimal site activates which reduce project completion time as well as coast.

Single Effect MEE

Double Effect MEE

Triple Effect MEE

Key Features :

- Complies with PCB norms.
- Economical and efficient system.
- Proven technology integration with Stripper, MEE, ATFD.
- Continuous, hassle-free, and minimal maintenance system.
- Compact design with lowest footprint.
- Available in Manual, Semi-Auto, and Fully Auto operations with PLC / SCADA.
- Scalable & modular suits both small & large industries.
- Corrosion Resistance Material Ensure long system life

Targeted Industries :

- Pharmaceutical Industry
- API & Bulk Drug Industry
- Chemical Industry
- Dyes & Intermediate Industry
- Castor Oil Industries
- Bromine Recovery Industry
- Textile Industry
- Food & Beverage Industry
- Electroplating Industries
- Automobile Industry
- Dairy Industry

Energy Recovery System (ERS)

Energy Recovery System (ERS) is newly, first time Designed and upgraded version of MVRE Technology which has the unique features of zero maintenance and consistence performance having the lowest operating cost ever. The Patent Application has been filed for this product. ERS is specially designed for those clients who do not have steam as heating media and want to achieve minimum of operating cost with Zero Carbon Foot Print. Key features of ERS System is as above.

Key Features :

- Patent (Applied) Technology
- Zero Carbon Foot Print
- Run on Electrical, Steam and Thermic Oil Energy
- Hybrid Model Also Available
- Easy to Transport
- Lowest in Operating Cost
- No Maintenance due to Static Designs
- Consistence Performance
- Pre-Assembled & Pre-Tested System
- Save Project Duration

Targeted Industries :

- Pharmaceuticals Industries
- API & Intermediates Industries
- Chemical Industries
- Dyes & Intermediate Industries
- Castors Oil Industries
- Electroplating Industries
- Automobile Industries
- Bromine Recovery Industries
- Textiles Industries
- Food & Beverage Industries
- Dairy Industries
- Salt & Minerals

Electrical Evaporators

Electrical Evaporator is specially designed for those clients who do not have steam or thermic as heating media for the small amount of effluent water. It is also known as open pan Evaporator as it discharge water vapor in the Atmosphere.

Key Features :

- Lowest in Capex
- Portable system / Pre-Assembled
- Compact Design
- Lowest Foot Print
- No Site cost (Except Utilities)
- Plug & Play
- Only Electricity Required

Targeted Industries :

- Mechanical Industry
- Electroplating
- Automobile
- Pharmaceuticals
- Chemical Industry
- Textile Industry
- Food and Beverages

Available Capacities

200 LPD | 500 LPD | 1000 LPD | 1500 LPD | 2000 LPD | 2500 LPD | 3000 LPD

Electrical Evaporator with Vacuum System (EEVS)

EEVS model has been designed for the those client who are not having steam or thermic as utility and want to recover condensate water to achieve ZLD. This plant is available for batch type operation as well as Continuous operation.

Available Capacities

200 LPD | 500 LPD | 1000 LPD | 1500 LPD | 2000 LPD | 2500 LPD | 3000 LPD

Key Features :

- Lowest In Capex
- Portable, Pre-Assembled, Pre Tested System
- Compact Design
- Lowest Foot Print
- Zero Carbon Foot Print
- No Site Cost (Except Utilities)
- Plug and Play

Targeted Industries :

- Mechanical Industry
- Electroplating
- Automobile
- Pharmaceuticals
- Chemical Industry
- Textile Industry
- Food and Beverages
- Dairy Industry

Hybrid MEE

Nidhi Engineers introduces India's first Hybrid MEE Plant, combining an Electrical Evaporator with a Thermal MEE system. It achieves Zero Liquid Discharge with zero carbon footprint and reduced operating costs by reusing vapor energy. Fully complying with Pollution Control Board norms.

Key Features :

- Patent Applied Technology
- Zero Carbon Foot Print
- No Boiler (IBR) Requirement
- Lower in operating cost Compare to Traditional
- Lowest in Capex
- Portable, Pre-Assembled, Pre Tested System
- Compact Design With Lowest Foot Print
- Easy to Transport
- No Site Cost (Except Utilities)
- Plug & Play
- Energy Source : Electricity only (No Steam-No Thermic)
- Reduce Project Duration

Application :

- Zero Liquid Discharge
- Various Product Concentration

Targeted Industries :

- Pharmaceuticals Industries
- API & Intermediates Industries
- Chemical Industries
- Dyes & Intermediate Industries
- Electroplating Industries
- Automobile Industries
- Bromine Recovery Industries
- Textiles Industries
- Food & Beverage Industries

Product Recovery

We provide product recovery systems based on the process of vacuum evaporation, crystallization, filtration and Distillation to recover product / by product from the feed material to generate revenue we have successfully commissioned various product recovery across India.

Chemicals & Salts :

- Sodium Sulphate
- Cobalt Sulphate
- Nickel Sulphate
- Copper Sulphate
- Zinc Sulphate
- Ammonium Sulphate
- Sodium Chloride
- Ammonium Chloride
- Magnesium Chloride
- Potassium Chloride
- Lithium Carbonate
- Manganese Carbonate
- Sodium Tungsten
- Molybdenum
- Mixed Salts From Waste Water
- Glycerine

Product Concentration From Aqueous Products :

- Coffee
- Tea
- Herbal and Vegetable Extract
- Milk
- Glucose
- Dextrose

Solvent Recovery :

- Butanol
- Methanol
- Ethanol

Targeted Industries :

- Salt & Minerals
- Battery Recycling
- Castor Oil Industries
- Chemicals Dyes & Intermediate
- Pharmaceuticals
- Bromine Recovery
- Food & Beverage
- Dairy

Key Features :

- Lowest in Capex
- Compact design
- Lowest foot print
- Easy to transport
- Optimal site coast

Sodium Chloride

Sodium Sulfate

Cobalt Sulphet

Nickel Sulphate

Mix Salt

Glycerine

Crystallizer System

Adiabatic Crystallizer

An adiabatic crystallizer is a type of crystallizer in which crystallization occurs without any external heat being supplied or removed. The process is driven by the evaporation of water vapor under vacuum, which cools the solution naturally (adiabatic cooling), leading to supersaturation and crystal formation.

Working Principle

- A feed solution (at near-saturation) is introduced into the crystallizer.
- By reducing the pressure inside the vessel, part of water evaporates instantly.
- This evaporation causes cooling of the remaining solution, lowering its solubility and creating supersaturation.
- Supersaturation drives the nucleation and growth of crystals without the need for external heat exchangers.

Key Features

- Operates under vacuum conditions.
- Supersaturation is generated by self-cooling (evaporative cooling).
- No external heating or cooling system required, hence energy efficient.

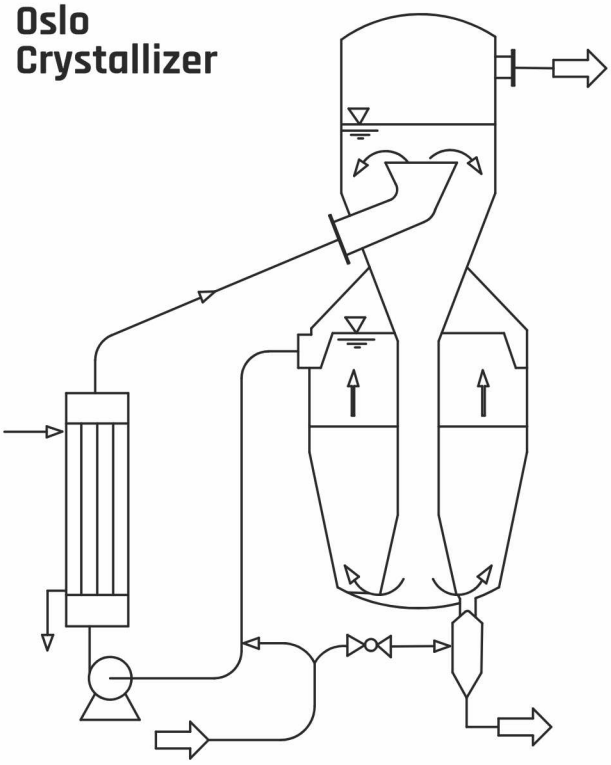
Advantages

- Simple design and relatively low operating cost.
- Effective for heat-sensitive materials (since no external-heating is used).
- Good control over supersaturation and crystal size distribution.

Applications Industries :

- Sugar industry
- Food and dairy industry
- Salt production
- Other water-soluble inorganic salts

Oslo Crystallizer



Oslo crystallizer is continuous operation fluidized-bed crystallizer which is used for high specific gravity fluid with forced circulation to achieve large, uniform, and high-purity crystals. It operates by maintaining a bed of crystals in suspension while circulating the mother liquor in a controlled manner.

Key Features

- Designed to minimize secondary nucleation.
- Produces crystals with a narrow size distribution.
- Suitable for continuous or batch operation.

Advantages

- Large and pure crystal formation.
- Reduced fines, leading to easier filtration, washing and drying.
- Improved product quality with uniform crystal size.

Applications Industries :

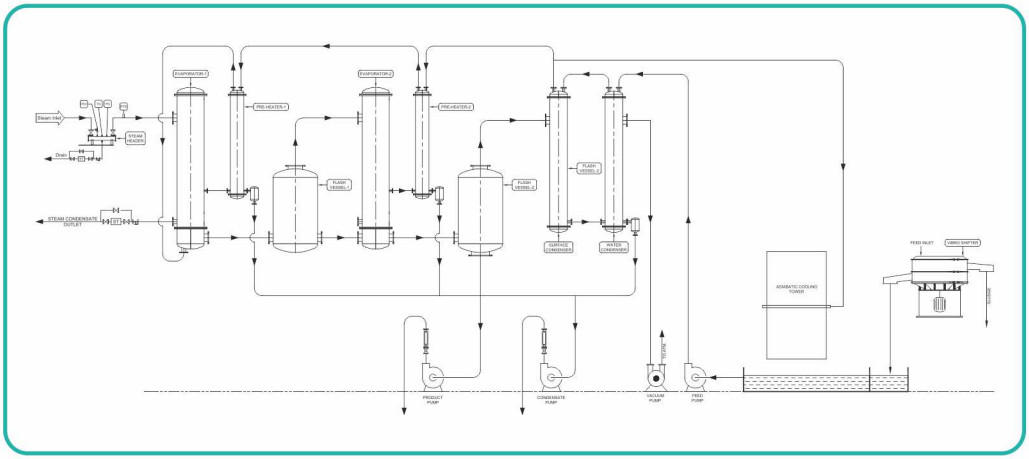
- Fertilizer production
- Pharmaceuticals
- Food and sugar industry
- Specialty and fine chemicals

Caustic Recovery Plant

Caustic recovery plant is basically multiple effect evaporator where liquid caustic used from the mercerizing process of cotton is being feed to the plant with lower concentration of caustic where water is separated from the evaporation process and concentrated caustic is received as product. In our CRP system we recover the energy by using pre heaters and we feed caustic in the cooling tower before feeding to the CRP plant to reduce sensible heat as heat recovery concern. our CRP meets all client needs in terms of capital and operating expense.

Key Features :

- Optimal Operating Cost
- Lowest Footprint
- Prefabricated and Pre Assembled
- Maximum Energy Recovery
- Lowest Site Activity



Sludge Dryer

Sludge dryer is used to remove moisture from the sludge coming from the upstream up to <5% and produce the dry product continuously. Steam or Thermic fluid can be used as energy source. We have economical an efficient design for minimal maintenance.

Key Features :

- Optimum Efficiency
- Continuous Operation
- Uniform Product Output
- Steam & Thermic Heating
- Once-Through Drying
- No Back Mixing
- Comply PCB Norms

Targeted Industries :

- Pharmaceuticals Industries
- API & Intermediate Industries
- Chemical Industries
- Dyes & Intermediate Industries
- Textiles Industries
- Food & Beverage Industries

Air Scrubber

Scrubber system is used to treat polluted air with a vast range of size and material of construction. This system neutralizes and removes particulates and discharges treated air in the atmosphere. Available in Various materials of construction like SS 304, SS 316, FRP, HDPE, Carbon Steel.

Key Features :

- Compact Design
- Lowest Footprint
- Economical
- Lower Maintenance
- Static Design
- Available In Customized MOC

Targeted Industries :

- Chemical and Pharmaceuticals
- API & Intermediate Manufacturing
- Dyes and Pigment Industries
- Electroplating Industries
- Automobile Industries

Vacuum Ejector System

Nidhi Engineers specializes in providing custom-engineered vacuum solutions for various industrial applications. We offer complete skid-mounted and packaged Vacuum Ejector Systems, designed for both single-stage and multi-stage operations.

Our systems are designed, manufactured, supplied, erected, and commissioned in-house, ensuring seamless integration and optimal performance.

We provide a wide range of vacuum systems based on steam jet and water jet technology, built for reliable, efficient, and continuous operation.

Our Offerings Include :

- Water Jet Ejector System
- Steam Jet + Water Jet Ejector System
- Rota Jet Ejector System
- Multi-Stage Steam Jet Ejector System

These systems are widely used in chemical, pharmaceutical, petrochemical, and process industries, where consistent vacuum levels are essential.

Heat Exchanger

We are the manufacturer of shell and tube type heat exchanger in a wide range of size and material of construction. We have a facility of thermal and mechanical design. We design and manufacture as per various codes and Third Party Inspection.

Type of Heat Exchanger

- Shell & Tube Type Heat Exchanger
- U-Tube Type Heat Exchanger
- Tube Bundles
- Kettle type Heat Exchanger
- Oil Cooler
- Oil Heater
- Condenser
- HE Revamping
- Tube Bundle Replacement

Targeted Industries :

- Oil & Gas Industries
- Chemical Industries
- Pharmaceuticals Industries
- Textiles Industries
- Food & Beverage Industries
- Dairy Industries

Heat Exchanger

U-Tube Type Heat Exchanger

Reactors

The Reactor Vessel is often regarded as the heart of any industrial process and we deliver excellence where it matters most.
Our in-house capabilities allow us to offer custom-designed reactors (both process and mechanical) fabricated in accordance with Good Engineering Practices and ASME codes.

We provide all types of reactor vessels, including :

- Jacketed Reactors
- Non-Jacketed Reactors
- Limpet Coil Reactors
- Agitated Reactors

Application :

- Mixing
- Reaction
- Evaporation
- Cooling

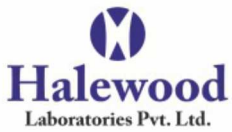
Key Features :

- Customize Design
- High Quality
- Easy Installation
- Corrosion Resistant

M.O.C. :

- MS
- SS 304
- SS 316
- Duplex
- Titanium

Our Valuable Clients



OUR INSTALLATIONS

1. GUJARAT
2. MAHARASHTRA
3. MADHYA PRADESH
4. UTTAR PRADESH
5. DELHI
6. RAJASTHAN
7. TAMIL NADU
8. KARNATAKA
9. DAMAN
10. PUNJAB
11. TELANGANA
12. ASSAM

nidhi® ENGINEERS
Green ZLD System

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Works :
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